SUPPLEMENT.

The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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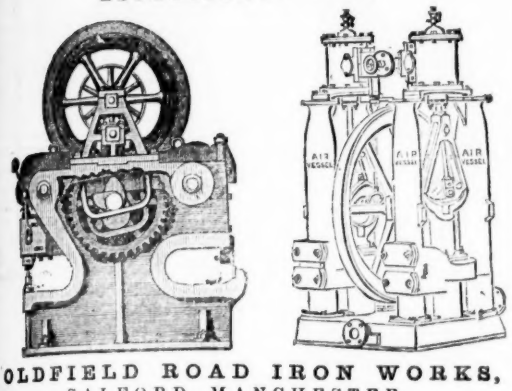

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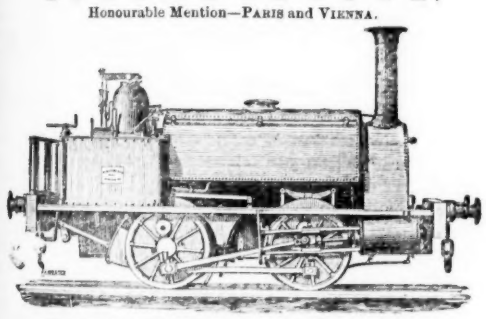

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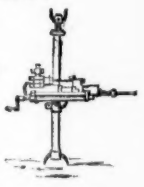

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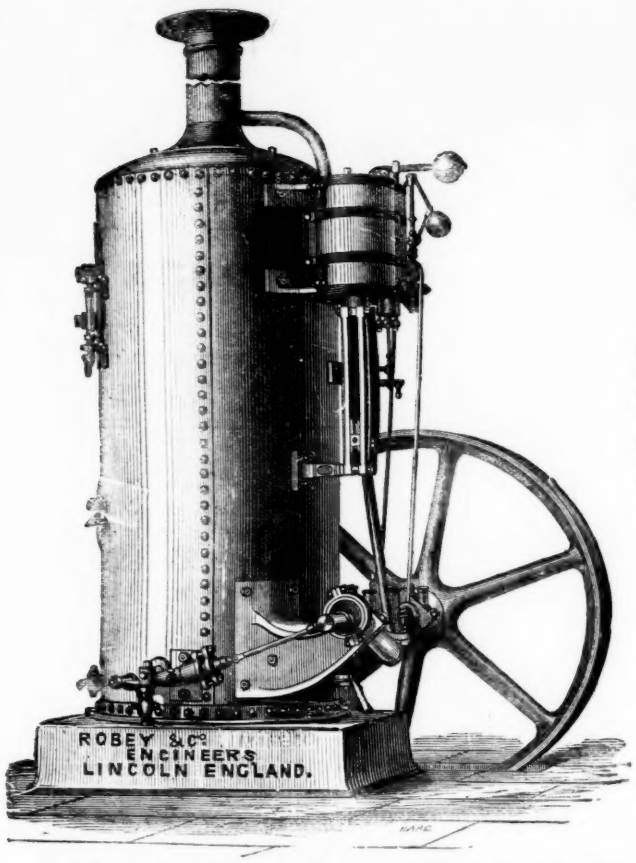

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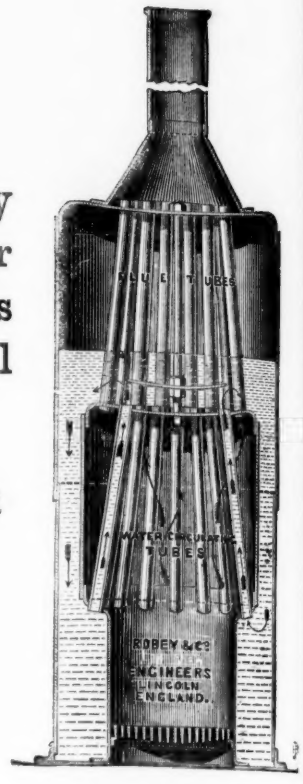

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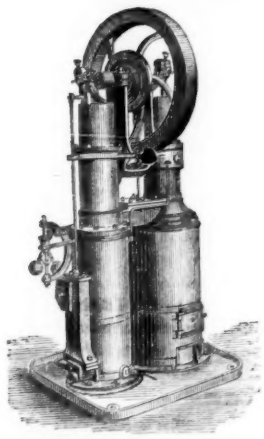

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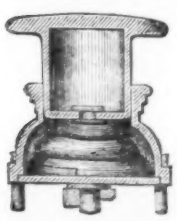

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MINING IN COLOMBIA.

The just-published reports from Her Majesty's Consular officers in the United States of Colombia contain an unusual amount of information, in considerable detail, on the subject of mining industry in that country, which it will be convenient to deal with at one and the same time.

The report from Honda treats more especially of British mining industry in the State of Tolima, formerly the province of Mariquita, a tract of country which is some 280 miles long, with an average breadth of 70 miles. Having first described the State, and made some remarks on the population and climate, Mr. Treffry devotes the remainder of his observations to geology and mining. The Central Cordillera, he tells us, is composed of granitic, schistose, and volcanic rocks, and contains no organic fossils, but is traversed by numerous veins of gold, silver, zinc, lead, and copper ores, and vast accumulations of auriferous gravel cover the flanks of the ridges. The Eastern Cordillera is sedimentary or of secondary formation, and is highly fossiliferous; it contains copper, lead, zinc, iron, and coal in great abundance; but, owing to the want of roads, these minerals cannot for the most part be turned to account—mining is, consequently, limited to gold and silver. A considerable number of American miners have lately visited the State, prospecting for gold, but one or two only have obtained good results, the Spaniards having previously washed the gravels so extensively as to leave little available for extraction by the old processes. Within the last four years hydraulic mining has been introduced at the Malpaso Mine by an English company. This mine is leaving a small profit on current expenses, and Mr. Treffry believes that it will go on improving. It was formerly very extensively worked by the Spaniards, but the late native miners were not able to make it pay.

The La Rica Mine is about 10 miles south of the last mentioned; but, although the gravel appears to be sufficiently rich to pay by hydraulic washing, it was found necessary to suspend the works, as only a sufficient quantity of water could be obtained to work it a few hours occasionally. A project is on foot to bring in a watercourse from a great distance, and when this is done the mine may be profitably worked. The Malabar Mine is about 4 miles north of the Malpaso, and has a great command of water, which supplies two hydraulic machines, each throwing a jet of 6 in. in diameter. Much expense has to be incurred here in cutting through a ridge of rock which was met with in the gravel bed, but good results are soon looked for. Several other alluvial mines are being opened by British subjects, but they are as yet in an incipient state.

We now turn to the subject of silver mines. The Frias Silver Mine, belonging to an English company, is reported to be a valuable property, but requires further development before it can reach the high position which the richness of its lodes render it capable of attaining. Last year it yielded about 300 tons of ore for exportation to Swansea. This mine was very extensively worked by the Spaniards, who reduced the ores on the spot. Near the southern extremity of the State of Tolima the same company has a rich gold vein mine, named "Organos;" but from its distance and difficulty of access its working has been for some time suspended. The Santa Anna Silver Mines, some 10 miles to the north-east of the Frias, were the first mines worked in the county by English capital, and were at one time under the direction of Mr. Robert Stephenson, the railway engineer. From 1826 to 1850 a loss had accrued of 100,000*l.*, between 1850 and 1860 a profit of about 75,000*l.* was the result; but from 1860 to 1870 a fresh loss of 70,000*l.*, and again up to the suspension of the workings in 1873 a profit of some 10,000*l.* This mine is rather more than 140 fms. deep, and has been worked to the extent of about 120 fms. horizontally. The average produce has been 60*l.* per square fathom, and the total yield about 700,000*l.* in 47 years. The Buena Ventura Silver Mines are about 20 miles distant from Honda, and were formerly famous under the name of the "Bocaneme" Mines. After an expenditure of 26,000*l.*, they have been abandoned before the old Spanish workings were fully cleared out, these having been more extensive than was anticipated. From the waste heaps of rubbish left by the Spaniards 10½ tons of ore have been obtained, worth 127*l.* per ton—a good proof of the value of the mines.

In concluding his report Her Majesty's Vice-Consul expresses an opinion that the unfavourable results of British mining industry in this State are due rather to defects in the method and general management than to any want of richness in the mineral deposits, and that experience will lead to such improvements in the conduct of any future enterprise as shall ensure better results.

A British Vice Consulate was only opened at Medellin, in the State of Antioquia, in January of the present year, and the officer in charge has certainly lost no time in supplying the Foreign Office with a report on its gold mines. No Consular report, of course, has before been made on this district, and Mr. White naturally thinks it well to enter into some details respecting the State. Under the circumstances our readers will, doubtless, be interested by a somewhat fuller notice of this report than might otherwise have been necessary.

The country for its area is, perhaps, the most mountainous in the world, and owing to this physical condition agriculture is in a very backward state, the great industry being the working of mines. Much attention has been paid to mining laws, and the miner readily obtains titles from the Government, who are the owners of unworked and abandoned minerals—such as gold, silver, copper, lead, and emeralds. The title to a mine is obtained by the payment of about $100, and a yearly sum of $6. It gives the owner very special rights, such as to lands, woods, water-courses, &c., subject to the payment of the damage caused to the owner of the soil. The extent of land or mineral rights obtained by one of these titles is 1800 by 240 metres, and the same person may hold as many titles as he pleases. It is owing to these facilities that this State is the most important gold-producing one in the Federation. The value of the gold and silver exported from Medellin in 1874 was in seven months $1,377,470, of which $1,069,414 went to England; in 1875 (twelve months) $2,403,241, of which $1,768,368 went to England. This does not include the money coined at Medellin, or the gold exported direct from Zaragosa to the coast; including these, the amount obtained from the mines in 1875 may be put down at $2,500,000. The gold and silver is nearly all cast into bars, and assayed by an eminent local firm. About 15,000 men and women are employed on the mines, but the greater number work on their own account, without capital or appliances beyond a crow-bar and a spade, so that the result achieved speaks well for the richness of the mines.

The Frontino and Bolivia Mining Company (Limited) own extensive mineral rights in the district of Remedios, in this State. They have been working them for ten years without paying any dividend, and it is only within the last year or so that the agents have been able to remit anything to England on account of profits. These mines in 1875 produced $153,068 in value of gold; but as they were in debt, and the works were in a ruined state, the profits were devoted to paying off the mortgage and erecting new mills and works. This being done, the mines are making monthly from 1000*l.* to 1200*l.* profit, with every sign, in the opinion of Her Majesty's Vice-Consul, of increasing this sum to 2000*l.* monthly.

The difficulties of transport, owing to the physical character of the country, will not admit of machinery such as is used in Europe, so that to work with economy great care and judgment are required to combine whatever good is found in practice among the natives with such foreign improvements as may be economically introduced and worked. As an instance of how mines are worked there, Mr. White calls Lord Derby's attention to the Cristales Mine, started in 1868 on a capital invested of $4,294,335, spent in erecting a three-head mill and opening out the mine. Now there are 33 stamps and two arrastres at work, and the profits divided amount to $315,196. The Zancudo Mine, one of the finest in the world, has no capital account, the mine having yielded sufficient to mount the smelting-works, which are equal to reducing 250 tons of ore monthly. This mine in 1875 gave a profit of $126,000, and, besides, large sums were spent in increasing the establishment. Some of the Frontino and Bolivia Company's mines show the same history as at present managed. Cecilin gives monthly profits nearly equal to the money spent in starting it; Tigrito, a little mine, with a six-head mill, cost about $1500 to place it in a position to give profits, and yields from $800 to $3200 monthly. Further details are unnecessary to show that mines in this State, when properly and economically managed, may be made highly remunerative.

To conclude:—Antioquia offers many advantages for the working of the mines. People are looking forward to the realisation of the railroad for affording means of introducing machinery to enable the mines to be worked with greater economy, and when this is completed the State will be one of the greatest gold-producing countries in South America. A native company has been formed, with a subscribed capital of $137,000, which gives great hopes of success, the direction having introduced machinery new to the place. The gold obtained in Antioquia, it may be remarked, is very much combined with silver, and the general standard of the gold from the lodes is as low as 0·600, and sometimes even as low as 0·380. The alluvial mines give a very good quality, as a rule about 0·800, but in some cases the standard is much higher. Owing, no doubt, to the gold and silver exported from Savanilla not having the producing locality specified, Antioquia is placed at a great disadvantage when deductions are drawn from statistics, whereas in reality it produces two-thirds of all that is exported from the United States of Colombia.

ON THE IRON MINE OF MOKTA-EL-HADID, IN ALGERIA.

BY M. ROCOUR.

The deposit of iron ore of Mokta-el-Hadid is situated about 30 kilometres from Bona, on the borders of Lake Fetzara, in the south slope of the mountains that extend north and south from the Cape de Fer to the lake, and eastward to the City of Bona. Although known from a very remote period, as evidenced by the name, signifying in Arabic the iron ford (qué de fer), it does not appear to have been actually worked before 1840. A concession granted in 1855 was allowed to lapse, the means of communication then available not allowing it to be worked at a profit. The first explorers, therefore, confined their attention to the similar, but smaller, deposits of Karesas, which are near to the port. The ores being conveyed by animals for some few miles to the River Seybouse, where they were lightered to the charcoal blast-furnaces of the Alelik, established within 3½ miles of Bona, but which have been extinguished for some years. The present proprietors—the Mokta-el-Hadid Mining Company who were incorporated under the auspices of M. Paulin Talabot, of the Paris-Lyon Mediterranean Railway Company, with a capital of 15,000,000 francs, are the proprietors of the old concessions of Mokta Karesas and Bon-Hanza, and the development of the works was carried out to the extent of being able to ship 200,000 tons per annum. Immediately on the completion of the railway, in 1874, this amount was increased to 430,000 tons, of 65 per cent. produce. In order to be able to command tonnage for this large output, the supply of sailing vessels offering being perfectly inadequate, a subsidiary company, known as the Compagnie des Transports Maritimes, was organised by the same proprietary, with a capital of 20,000,000 francs, whose traffic consists mainly in the conveyance of ore from Bona to Marseilles in steamers of about 1000 tons capacity.

Before the development of the mine the outcrop of the deposit of Mokta proved a curved line along the face of the hills for about 1½ mile, the great mass in the centre forming a hill rising to about 420 ft. above the lake, and about 35 ft. more above the sea-level. From this central mass the ore has been followed by shafts and levels in a north-westerly direction for about three-quarters of a mile, and for an easterly extension has also been traced; but not much has been done in this direction. The principal mass, which is intercalated in the form of a bed between a floor of mica schist and a roof of schist and limestone, dips towards the plane (S.E.), with an angle of 30°. It has been laid open for working by a trench bearing N.N.W., about 350 feet wide, which uncovered it near the base, about 35 feet above the lake, and from which terraces have been started at vertical intervals of 16 ft., so as multiply the working forces. These terraces are united by means of self-acting inclines with the main lines of railway. At the present time (1874) there are 15 terraces at work, and about four more will reach the summit of the hill; that at the bottom is, however, one lift below the level of the trench, and the ore has to be raised by an engine plane. The breadth of the mass measured horizontally, where cut across by the trench, was 95 metres. The exploratory works on the N.W. trench have proved the deposit to be continuous, but varying in depth from 20 in. to 24 ft. or 26 ft., the dip being sensibly less than in the present workings. A second parallel deposit above the main, of 14 ft. thickness, which does not come to the surface, has been struck above the limestone, forming the roof by a boring to the dip at a depth of 164 feet.

The ore is broken by means of blasting with gunpowder, light charges being first used to enlarge a small bore-hole sufficiently to receive charges of from 30 to 80 lbs. of powder, which blow down large masses, often up to 2000 or 3000 tons at one blast. These blocks are then broken into convenient sizes for handling, the miners availing themselves of the numerous veins and strings of clay which divide the bed into separate banks. Some portions of the ore, which are of a red-brown colour, are soft enough to be removed by the pick; but the blocks of blue or hard ore, when of any size, usually require blasting to break them up. On the principal working levels lines of the gauge of the new railway (1 metre) are laid, so that the ore can be loaded directly at the face into 5-ton wagons for removal; but from those of secondary importance the ore broken is removed in tipping wagons, called "giraffes," which discharge into hoppers connected with the next important line below. From these hoppers, which are either large timber boxes or pits in the solid rock, the main line wagons are loaded by simply opening a valve.

Each terrace is worked as a separate contract, the ore being raised and loaded at a price per ton in one bargain. The contractors may employ from 40 to 50 hands in one bargain; payment is made on the number of wagons received at Bona, the work being controlled by the company's foremen. The miners are principally Piedmontese; the trammers, fillers, and other labourers being Maltese, Neapolitans, &c. The company employs about 1500 men, including about 200 military convicts, who are principally employed in the removal and packing of the waste on task-work, for which they receive a bonus (gratification) of 75 centimes, which is applied to the improvement of their rations; besides this, the company pays the Government 1 fr. per day for each convict, and provides barracks for their lodging. The miners make from 5 fr. to 6 fr. per shift of eight hours, and labourers up to 4 fr. for the same time. The men are in part lodged in commodious barracks (*a demi-convenables*), but principally live in brush-wood huts, constructed by themselves on their arrival at the works. The work is very unhealthy, from the exposure to the mid-day sun, and the malarious emanations from the lake. Numerous deaths from fever and sunstroke occur among the men every year in the hot weather, the survivors being reduced in strength to a point that seriously affects their working power. It has been sought to reduce these losses by lodging the men at Bona, and carrying to and from the work by railway, and by the suppression of mid-day work; but the author considers these means as insufficient, and that the proper remedy would be to build houses for their workmen on the neighbouring hills, at a sufficient altitude to be free from the poisonous emanations of the lake.

A considerable number of Arabs from the neighbouring tribes are employed as incline brakesmen and similar sedentary work. Notwithstanding the very low wages paid to them they are not so advantageous economically, having regard to the work done, as the more highly paid Maltese or the military convicts.

The railway conveying the ore to the port of Bona is a single line of 39 in. (1 metre) gauge, and 35 kilometres in length. The original rails of iron have been replaced by others of steel of the same section; the sleepers are of cork-wood, grown on the spot. The line, being laid almost entirely without earthworks, was constructed for 65,000 fr. per kilometre, including the original rolling-stock. The latter, which has been somewhat increased with the development of the mine, includes 7 locomotives, 260 ore-wagons, some brake-vans, and 2 saloon carriages, for the use of the administration and visitors. The engines are of the ordinary goods pattern, with six small wheels coupled, weighing from 15 to 20 tons. They were made by André Köchlen, and Co., of Mulhausen, and cost 35,000 fr. each. The wagons now employed are similar to those of any well-conducted line in Europe. The original ones were without spring buffers, and the springs were light, and the axle-boxes of a simple construction. This, however, has been found to be a mistaken economy, and a better class of construction has been adopted as the old ones wore out. These carry from 4½ to 5 tons each, and cost about 80*l.* The trains are made up of 40 wagons, corresponding to a total load of from 180 to 200 tons. In regular work about eight trains are dispatched daily, making a total of about 1500 tons. The crossing place of the trains is midway between the mine and the port. Four locomotives are kept fired every day, three running on the line, and a fourth in reserve. When it is remembered that the same wagons are employed in the works at the face, in the conveyance of minerals on the line in loading, besides deductions for repairs, the work done by this small line is seen to be very considerable, the small park of 260 wagons being sufficient for the conveyance of 320 wagon loads daily. Those actually employed make, on an average, three trips of 35 kilometres per day—an amount of work which the author considers to be far beyond that of most European rolling stock.

The company's depôt of mineral at Bona, where a stock of from 30,000 to 40,000 tons is constantly kept, covers a very large surface, as the military authorities, fearing the possibility of the ore-heaps being converted into batteries down along the fortifications of the town, have forbidden the raising of the heaps above 6 ft. or 7 ft. from the ground. There is, therefore, no possibility of loading directly into ships' holds, which when light rise considerably above the quay, the bulk of the loading being effected by wheelbarrows. Some portion is, however, loaded into large sheet-iron buckets holding 30 cwts., which are carried by lighters to the outer side of the steamers, and are then lifted by steam cranes sufficiently high to be dropped into the hatchways. By this means it is possible to load 1500 tons into one bottom, or 2000 divided over several. The depth of water is, however, not sufficient to allow more than one large steamer alongside at a time, the Boudjunia river, which runs into the port, depositing a constant supply of mud along the face of the quay.

In order to prevent disputes the ore is only sold delivered at the quay, and never under hatches; but the company allow their men to assist the crews, without accepting the responsibilities for detention. The average cost of loading is estimated at 50 centimes per ton. The loading is performed by a gang of Maltese, about 50 being employed per shift on task-work. When there are no vessels to be loaded they are sent up to the mine by train, where they are employed on sundry jobs until their services are again required at the quay-side. Numerous steamers, of English, Dutch, American, and other nationalities, come to load ore at Bona; but the principal transport is effected by the nine steamers belonging to the affiliated company, which carry the ore to Marseilles for distribution to the principal large ironworks in France, including Creusot, Terrenoire, Firminy, &c.

These vessels, which are known by the generic name of Talabots, have been specially constructed for the work at La Seyne, near Toulon. They are of a specially solid construction, the ore forming a detestable cargo, especially from the manner in which it strains the vessel in heavy weather. This will explain the heavy cost of 800,000 fr. (32,000*l.*) for vessels of 612 tons measurement, and capable of carrying 1200 tons dead weight. They are four-masted, and carry a considerable amount of sail, to economise steam-power; but have been found to be quite unmanageable under sail alone, as was proved in 1873, when one of them was disabled by the breaking of her screw, and, being unable to work to windward under sail, could not fetch a port in the island of Sardinia without the help of a tug. The principal dimensions of these vessels are as follows:—

Length at load line	Metres 72·00
Breadth over all	8·82
Deep draught	5·00

Engines, two cylinders, inverted direct acting, not compound, with surface condensers, 120 nominal, 480 indicated, horse-power; two boilers, of the old pattern, with two furnaces each (Moyenne pressure?), about 25 lbs. pressure. Screw, 3·84 metres diameter, 3·46 metres pitch, making 80 revolutions per minute; speed, about 8 knots. The passage from Bona to Marseilles takes about 50 hours; 70 tons of coals are burnt on the round trip, allowing 20 hours at either end for loading and discharging. The average number of voyages per annum is 25. The costs of transport per ton are stated as follows:—

Freight, Bona to Marseilles	Fr. 10·00
Loading charges, Bona	1·50
Landing charges into railway trucks, Marseilles.	1·75
Port dues	1·05
Total freights and charges...	14·30

The prices given above are those charged by the company to chance customers; but the author supposes that large buyers do not pay more than half that rate, and that the cost to the large works in France is not more than from 10 fr. to 12 fr. per ton. The transport of minerals at low freights can only be made profitable by the addition of other goods paying a higher rate, such as sheep, cork, wool, wheat, &c.; the return freights from France are generally of small importance. The most advantageous of the extra freights is afforded by sheep, which are carried at 5 fr. per head, as many as 3000 being sometimes taken at one shipment, together with 1000 tons of ore, making a total freight of 15,000 fr. and 10,000 fr., or 1000*l.*, whereas with a full cargo of 1200 tons of ore the return is only 12,000 fr. (480*l.*) There is a small amount of passenger traffic, but the returns from this source are inconsiderable, as there are two other lines employed in the trade, one of which is subsidised for the mail service. The actual cost of the conveyance per ton of mineral is estimated at 7·70 fr., a price which would not allow a dividend on the capital, 9 fr. being required to pay even 5 per cent. The author then contrasts these results with the longer voyages to South Wales, Newcastle, Antwerp, and New York, proving that the sytem of conveyance adopted by the company would be impossible to such distant ports at anything like reasonable freights, the system of combining the transport of ore with that of other goods from Mediterranean and Levantine ports, such as is adopted by the Dutch and English steamers visiting Mokta, being the only one allowing of the conveyance to long distances; and so long as the great demand for coal continues in the Mediterranean ports the works in England will be supplied with this ore at prices far below that at which it can be delivered at Antwerp, Rotterdam, &c.

The completion of the various works in connection with the deposits of iron ore in the North of Spain will, in the author's opinion, restrict the market for Algerian ore to consumers in the Mediterranean basin, so that the opinion of the directors, expressed to the shareholders at the general meeting in 1874, that the production had reached a maximum may be accepted as well founded.

That this production is not likely to be further augmented is also rendered probable when we consider that the future of the mine must depend upon subterranean works. It has been stated above that the N.E. branch has been proved for about 1500 metres along the outcrop, in addition to which a main level, of sufficiently large section to allow of the passage of 5-ton wagons, has been driven about 15 ft. above the bottom of the trench following the footwall of the deposit, as nearly in a straight line as possible for about 800 metres. Cross-cuts have been made to the ore at intervals of 50 metres, proving the thickness to be from 2 to 12 metres, the average being from 5 to 6 metres. The dip being lower than in the open-cast the amount of level free ore in this portion, notwithstanding the general lowering of the outcrop, is very considerable, the amount of ore proved in August, 1874, being estimated at 800,000 cubic metres, equal to about 8,000,000 tons, in addition to which the 11th cross drive, at 550 metres, in November of the same year, had penetrated 48 metres through the ore without reaching the opposite wall, proving the existence at this point of a thickening of the mass comparatively to that in the original workings. The cost of raising the ore from this point may be estimated at 3 fr. per ton above that of the open working, whose days may be considered as numbered. This would require an extra expenditure, mainly in wages, on an output of 400,000 tons, of 1,200,000 fr. (60,000*l.*), and the doubling of the working force, including the substitution of pro-

perly trained miners for the quarrymen, who have been hitherto sufficient—a change that the author considers may concurrently with the adverse movement of the market have the effect of preventing the company from exceeding their present rate or working. It is intended, however, in addition to the level working, to develope the ore in depth. For this purpose the bore-hole already alluded to has been started at 350 metres from the foot of the hill, with a view of determining the proper place for a shaft. It is expected that the main mass will be reached at 175 metres, the small deposit already mentioned being considered to be an independent one, not known at the surface, and not a mere fold or branch of the main one.
—*Revue Universel des Mines.* H. B.

ST. JOHN DEL REY MINING COMPANY.

Sir,—There is a statement in the City Article of last week's Journal to the effect that private advices declare that the mines of this company are not looking nearly so well as they did, and that owing to the continued large production of poor mineral the quantity of gold obtained has fallen off nearly more than one-half, and the produce nearly so. Now, as it is desirable that accuracy should be regarded, I may state that these assertions are not exact. I find from the official accounts published in the Journal of Aug. 14, 1875, that the produce in July was 10·5 ozs. per ton, the aggregate yield being 52·500 ozs., of the value of 20,344*l.*; and further the produce in August was 10·3 ozs. per ton, and the aggregate yield 52,500 ozs.; the exact value of this is not given in the Journal, but it would be about the same as the equal quantity in the preceding month—20,344*l.* In September, however, of last year the produce was but 8·8 ozs. per ton, and the aggregate yield 46,000 ozs., of the value of 17,825*l.*

Now, upon comparing the figures with those for the present year it will be seen that the conclusions drawn are unjustifiable. In July the produce was (not 7 but) 7·72, or very nearly 7¾, the aggregate yield being 41,362 ozs.; and in August the produce was 7·6 ozs., or 7⅔ ozs. per ton, and the aggregate yield 39,000 ozs. Taking, then, July and August of each year it is found that in 1875 the total yield in the two months was 105,000 ozs., whilst in the corresponding period of 1876 it was 80,362 ozs., the falling off being 24,638 ozs., or considerably less than a quarter instead of "more than one-half." Similarly the produce has fallen from 10·4 to 7·66, the falling off being 2·74 ozs per ton, or scarcely more than one-quarter instead of "nearly one-half." The comparison for September is equally unfair; for instance, it is stated that the produce for the second half of September is 12,000 ozs., whereas a few lines further down in the same column the official statement is given—produce eleven days of September 12,000 ozs.; the fact being that the produce for eleven days of September, 12,000 ozs., is 1090 ozs. per day, and the produce of 52,000 ozs. for 31 days is 1677 ozs. a-day.

The remarks of co-shareholders who have brought the matter to my notice were that if the private advices referred to in the article are not more reliable than the figures they are not worth much. I am not in the habit of noticing such articles as the one above referred to, and only do so now at the request of several substantial proprietors.
Oct. 10. ——— Shareholder.

DON PEDRO NORTH DEL REY MINING COMPANY.

Sir,—The suicidal policy as intended to be pursued by the shareholders of this company, embodied in the resolution passed at the last meeting, induces me to endeavour to shadow forth what may be done by a course of proceedings opposite to that which has been pursued by the present and antecedent boards. I presume that it is almost a unique thing to find that a mine that has returned all its subscribed capital has never had a reserve fund, nothing further need be said to prove the inutility of the board; but when we find that one-fifth of the capital is uncalled, it appears to me tantamount to an abdication of the functions of the board not to do something in the way of calling this up, and also instituting an exploration fund; and the shareholders had better appoint a committee, with powers of enquiry, and take their affairs into their own hands.

The very frequent changes of the management at the mine, the appointment of persons who knew but little of mining, succeeded by persons who knew still less, and of a administration could only be followed by the results that have accrued. The remark of a shareholder "that it seemed determined to shut up the mine anyhow," has struck me as very peculiar, and I wonder where he got his information from, as this has been the rumour current in Marianna for a very long time. It is a great pity that no means have been discovered to stop the contraband trade in gold in that city—the Morro St. Anna gold being so readily recognised. But a first-class Brazilian detective from Rio would have been a cheap investment. I have been given to understand that the mine has been visited by managing directors, secretaries &c; but there does not appear to have been any improvement in the working of the mine itself, its internal economy or financial position—the last certainly not improved by the expenses.

Now, directly we have got a practical man in Capt. Vivian the cry is "Shut up." Why is this? With all the subscribed capital returned and one-fifth of the nominal capital uncalled, are the advocates of the "shut-up" policy afraid that Capt. Vivian will discover too much, and actually bring the mine into a paying condition in spite of any efforts to "knock it?"

Then there is the difference of opinion between Capt. Vivian, a practical miner in jacotings, and the superintendent of the St. John del Rey Company. Now, this difference of opinion is the most natural thing in the world. Capt. Vivian speaks of what he knows about, and has been accustomed to—and he says "My opinion is, from my experience, the gold does not run deep" Mr. Gordon's experience is at Morro Velho, quite a different formation, and he thinks the rock gets richer as they go deeper down the hole—*ergo*, Mr. Gordon thinks you must go deeper everywhere, every man speaking according to his lights; but Mr. Gordon has not been successful anywhere but at Morro Velho, and the success here is not to be attributed so much to mining skill as the skill of finance.

The general opinion in this country is that Capt. Vivian is correct, and to go deep would be a mistake, more especially as the jacotinga at Morro St. Anna is supposed to be a deposit and not a formation. There are most likely other deposits upon the property as rich as Maquiné; but the scratching about that has been going on cannot be called exploring, and was a mere useless expenditure.

It would be advisable to have some of the old levels cleared out which were left when other places showed more box-work, but which would now be considered very good. That an exploration fund be established, carrying a preference of 10 per cent. over all the mine, 10 per cent to reserve premium fund, 5 per cent. redemption, and the balance among the shareholders, and to carry on the present works make a call of 1s. or 2s. per share, the whole under the direction of a new committee. A Shareholder.
City of Marianna, Sept. 4.

P.S.—I should advise the shareholders not to part with the shares on the strength of the resolution.

LONGITUDINAL EXTENT OF LODES.

Sir,—Permit me to give your readers another illustration on this subject. The Esgair-galed, or north lode of Dylife, has been traced by the late Capt. E. Williams through Hyddgen sett, four miles west, where it has recently been opened on to Esgair-hir, three miles further. A glance at the Ordnance map will show that it continued its course through Nant-y-nod to Pen-y-brontpren and Tyhen, a further distance of six miles, making a total length of thirteen miles, through which a lode has been traced. Again, the Llechwedddu and Dyliffe lodes, which unite west of Dyliffe, have been traced either united or one of them (it is not known whether they part again or not) through Dyfngwm, Cafartha, Bugailyn, Hyddgen, Cwmdwsbach, Henfwlch, and Cefngwyn, to Elgar Mine, a distance of quite 12 miles. At Hyddgen, which is a very large sett, nearly three miles from east to west, this latter lode has been sunk upon, and at a depth 8 fms. from surface it is 8 ft. wide, worth 1 ton per fathom for lead, and bears the most complete resemblance to the Llechwedd-ddu lode at Dyliffe, so much so that it is impossible to detect any difference. A 40-foot water-wheel and other machinery are now being erected for the purpose of sinking the shaft 30 fms., and of developing vigorously this very promising mine. This discovery is looked upon by everyone in this neighbourhood as the foreshadowing of another Dyliffe, and it is hoped that the spirited gentleman (a private individual) who is incurring such a heavy outlay for the purpose of developing the mineral resources of the district will receive an ample return.—*Machynlleth, Oct.* 9. Cymraeg.

LONGITUDINAL EXTENT OF LODES.

Sir,—I am glad to find that my letter has drawn forth a reply from a "Gwennap Miner." Discussion, if carried on with the object of eliciting truth, and in a good spirit, may be useful—at least somewhat interesting—to mining men. I was aware before "Gwennap Miner's" letter appeared that the great adit, sometimes by misnomer called the "County Adit," had been extended through all the mines east of and through, or nearly through, Pennance Consols, but I was not aware that the adit had been continued into Wheal Beauchamp on the Pennance lode. Nor am I satisfied that there is undoubted identity in the lodes westward thereof to West Frances. This is a subject into which I will enquire, and I will investigate the maps of the several mines. I am of opinion that there are several dislocations which render identification difficult, if not impossible. There is a cross-course near the boundary of Wheal Buller and Wheal Basset, which made identification difficult some years ago. I will see whether since I was there the matter has been made clear.

As to the mines eastward from Tingtang, I am fully satisfied that no identity can be proved in the run of lodes. The great flookan, or county cross, is, or was, the eastern boundary of Tingtang sett. The adit level only has been put through it, the company having been restrained from coming within a margin of 5 fms. of it in the operations below. The same restriction was also imposed on Wheal Moyle Company, so that altogether there is a barrier of 10 fathoms. This flookan is said to heave the lode many fathoms—how far I do not now remember. It affects the lodes in the same manner in all the mines between that place and the Bristol Channel. I know also that at Poldory there are two cross-courses not very far asunder, which have also heaved the lodes, so that I question whether in Wheal Squire they can be identified. I have no interest in endeavouring to prove "Gwennap Miner" in error, although I think he is so, and I shall satisfy myself as to his correctness by enquiry, after which you shall hear again from—
Truro, Oct. 9. ——— R. Symons.

THE NASCENT COPPER COMPANY.

Sir,—When will these anonymous communications cease? Although very desirous of satisfying all enquirers, I will not budge from the line I have drawn out, and therefore beg to acquaint all who wish to learn more of this enterprise that it is requisite to append a name, or forward me a card with the questions laid out *in extenso*. I care not how many of them are asked, so that it is certain the enquirer is a *bona fide* investor, and not a member of that fraternity which always endeavours to damage young undertakings like this. However, I would here state that as I have received one or two epistles on the company, and as it is generally believed to be a private affair altogether, I think it the better plan to give a copy of the Memorandum of Association, wherein appears all particulars as to objects and capital, merely mentioning that the company is registered under the provisions of the Companies Acts, 1862 and 1867, receiving and adopting in lieu of Articles the table A recited in the said Act of 1862 as our guide:—

Memorandum of Association of the Nascent Copper Company (Limited).

1.—The name of the company is the "Nascent Copper Company (Limited)."
2.—The registered office of the company will be situate in England.
3.—The objects for which this company is established are:—
(*a.*)—To acquire any letters patent already granted, or which may be hereafter granted, or rights thereunder, or interests therein, or any concession or grant conferring the right to use or work any invention, process, or manufacture, whether the subject of a patent or not, connected directly or indirectly with the treatment of ores and minerals, and the utilisation of such products and bye products as may be manufactured during the said treatment, or which can be usefully or advantageously worked or dealt with by the company in connection therewith, or any rights or interests therein respectively, and to dispose of, either by sale or otherwise, all or any of the letters patent, licenses, rights and interests, or property, whether real or personal, acquired, or that may be acquired, by the company, and on such conditions and terms and in such manner as the company may think proper.
(*b.*)—To enter into treaty, co operate, unite, or amalgamate with any other companies or persons, whether British or foreign, having any object, property, or business comprised in the objects of this company, or to buy from the said companies or persons the business or property thereof, and to take up by subscription, purchase, or otherwise, or to hold shares or stock in any company (other than this company) in which the liability of the members shall be limited to the amount of their shares or stock, whether such company be established in the United Kingdom or elsewhere, provided its objects and purposes be of a like nature to those of this company or any of them.
(*c.*)—To apply and negociate for and obtain by grant, transfer, or otherwise, from the Imperial Parliament and other legislative bodies, and from the British and foreign Governments, and municipal and other authorities, or person or persons, any Acts of Parliament, or other legislative decrees, ordinances, concessions, patent rights, powers and privileges which may be useful or desirable for the objects of the company or any of them.
(*d.*)—To issue or pay shares fully or partly paid up, with or without priorities and privileges over the original shares, as the company may think fit, or cash, or part cash and part shares, fully paid up or otherwise, as the whole or part of the consideration to any patentee, vendor, or other party for any purchase or transaction of the company.
(*e.*)—To acquire for the purposes of the company any mines, lands, hereditaments, premises, stent heaps or burrows, estates and effects, or any grant, concessions, leases or other interests therein, and also the business, goodwill, property, and effects of any individuals or companies carrying on business within the scope of the company's objects.
(*f.*)—To establish manufactories and places of business for the purposes of and to establish and carry on any works for using, working, and developing the processes and mines herein referred to, or any improvement therein, or any business of the company, together with materials, machinery, plant, and tools for the same.
(*g.*)—To purchase and sell metallic ores and all other minerals, and all products manufactured therefrom, and to carry on business as chemical manufacturers, dealers, and agents.
(*h.*)—To issue debentures upon the security of all or any of the properties of the company, and to borrow money by mortgage or hypothecation of all or any of the said properties.
(*i.*)—To exercise all or any of the objects of the company, either in this country or abroad, and either by agents or otherwise.
(*k.*)—To do all such other acts and things as are incidental or conducive to the attainment of the above objects.
4.—The liability of the members is limited.
5.—The capital of the company is 15,000*l.*, divided into 15,000 shares of 1*l.* each.

Then, as far as our prospectus is concerned, we lay all before the public in a plain unvarnished manner—the payments of calls are made at the usual dates, and there can be no doubt whatever but that to be kept going with material means good profitable returns. I will now give a few cuttings from our prospectus, to show that there is none of that extravagance of language so commonly indulged in when investment is placed before the world. I would wish attention to be drawn to the fact that the cost of treatment is sometimes as low as 12s. per ton, instead of 14s., as laid forth in the same—

This company has been formed for the employment of capital in the treatment of metallic ores and other minerals, with a view to the extraction of the metals they contain, and the manufacture of various chemical bye products. This industry is of comparatively recent origin, but has already become of great importance, as regards the continued prosperity of the various mining districts of the kingdom. The chief process to be carried on by the company consists in what is known as the Nascent Copper Process, which is a method of rendering the metallic contents of minerals perfectly soluble, so that they can be simply washed out from the rocky and earthy matters accompanying them, without the employment of the usual costly and wasteful process of smelting by means of fire.

The Nascent Copper process is peculiarly advantageous where ores of a low percentage have to be treated, and, in fact, may be made to yield large profits even in cases where the amount of metal contained would not suffice to pay the mere costs of treatment by the ordinary methods. Another advantage is that, owing to the simplicity of the works required, establishments may be erected at a very small outlay in any ore producing district, and thus the expense of carriage of large quantities of worthless rocky and other materials associated with the ores may be avoided. Many thousands of tons of ore have already been treated by the Nascent Copper Process, and the experience thus gained has shown the cost of treatment to vary (according to locality, &c.) from 14s. to 1*l.* per ton, whereas the cost of copper smelting by the ordinary method is from 28s. to 2*l.* per ton.

It is intended that the company shall from time to time erect and conduct chemical establishments of the above description wherever suitable opportunities may occur, and, as a commencement, arrangements have been made for acquiring and carrying on the business of the Nascent Copper Works at Ware Quay, situate on the navigable River Tamar, between Plymouth and Calstock, and in the vicinity of many mines producing large quantities of ore of a suitable character for treatment.

These works, which were formerly occupied for lead smelting and silver refining, have been recently altered and adapted for carrying out the Nascent Copper Process. They occupy an extensive acreage, and comprise calcining, chloridising, refining, and flowing furnaces, lixiviating and precipitating launders and tanks, steam-boilers, stamps, and pumps, chambers and flues for the collection of volatilised bye products, a chimney-stack 130 ft. high, a blacksmith's shop, assay and general offices, and goods sheds for coals and stores. The occupiers also enjoy the right of using Ware Quay, at which vessels of considerable burthen can discharge and load."

It cannot be laid to our charge that we have stated in our prospectus matters impossible to execute, everything therein laid forth has been done, and, therefore, can be performed again.

Referring to the question I raised of the bone and muscle of our country (*i.e.*, the labourer) leaving us, the following cutting from the Daily News of the 3rd inst. will go a long way to endorse the opinion set forth. We see by this article that in two months we lose 1954 persons: of course they are not all males, but the best portion are, and by leaving the old country it means taking their wives, in nine cases out of ten never to return:—

Emigration to New Zealand.—The following ships, conveying emigrants for the Government of New Zealand, have been dispatched during the months of August and September:—From London, the Rangitiki, with 229 emigrants; the Waitara, with 191; the Jessie Osborne, with 232; the Hurunui, with 265; and the Cardigan Castle, with 324. From the Clyde, the Dunedin, with 285 emigrants, and the Oamaru, with 336; being a total number of 1954 emigrants. The Waitangi, which left London for Canterbury, New Zealand, with 337 emigrants on June 24 last, arrived out on Sept. 10—all well.

My readers will see that this refers to New Zealand alone, without having anything to do with the numbers departed to America, &c., and the only remedy is to *make* employment, and by that means stay this decimation. Thos. H. Miller, Secretary.
Bishopsgate-street, Oct. 6. ———

CANNOCK CHASE COAL FIELD—THE FAIR OAK COLLIERY.

Since the date of my previous communication on the discovery of coal by boring near Fair Oak Tree on Cannock Chase, the following particulars have been obtainsd by the boring I therein alluded to as being carried down at a point about 800 yards to the south-west of the present shaft:—

	Yds.	ft.	in.
1.—Bunter gravel and drift	57	1	7
2.—Measures, consisting of Clunch and Binds, &c.	13	1	10
3.—Coal		1	2 4
4.—Measures, Clunch, Binds, &c.		7	1 7
5.—Coal		0	1 0
6.—Measures, Clunch, &c., with Ironstone		8	1 1
7.—Coal		1	1 2
8.—Measures, Clunch, Binds, Ironstone, &c.		8	0 3
9.—Coal		3	0 8
10.—Measures, Clunch, &c., six bands of Ironstone	11	1	0
11.—Coal		1	1 11
12.—Measures, with Ironstone		5	0 7
13.—Coal		0	1 0
14.—Measures, with Ironstone		1	1 4
15.—Coal		1	1 0
16.—Fire-clay		0	2 4
17.—Coal		0	0 3
18.—Measures, with six bands, or 18 in., of Ironstone		4	0 3
19.—Binds and Clunch		9	0 0
Total depth proved	100	1	2

It will, therefore, be at once seen by those acquainted with the measures of the Chase that the section opened up by these borings contains a greater and more remarkable assemblage of coal seams than has been previously discovered in the Cannock Chase district, there being no less than five separate and distinct seams of workable thickness lying within a distance of 60 yards, and amounting in the aggregate to 28 ft. of solid coal. Beneath the last coal comes a series of ironstones also of greater thickness than usual, and it is propable that these, together with a thick band which lies almost immediately upon one of the other coals, may prove of sufficiently good quality to be workable.

In comparing this section with some of the other sections in the neighbourhood, there is not much difficulty in identifying the first coal as the *bass*, the third as the *cinder*, and the fourth as the *shallow*; but beneath these all similarity ceases, and the *deep* assumes a condition hitherto unparalleled in its ascertained history. It is divided into no less than four seams, representing in the aggregate 10 ft. 2 in. of coal, two of which are of workable thickness, and amount to 8 ft. 11 in. It is well known that the *deep* coal has a tendency to divide in its northern extension. It is split up into two seams at the West Cannock Colliery, and also at Brereton, but even in these cases the division is unequal, one seam being alone of workable thickness, although the two combined make up the average of about 7 ft. The inference, therefore, is that whatever condition the *shallow* and overlying coals may assume, the *deep* coal of the Chase in this the northern part of the district becomes divided into three or more seams, which in all probability gradually thicken and form distinct measures, removed from each other by corresponding intersections of strata, and thus adding to the number and, consequently, value of the workable coal seams in this direction.

It is not my intention, nor is it indeed here necessary, to describe in detail the history of the operations by which the existing conditions have been brought about. Briefly they are the result of the combined action of upheaval and denudation, both before and since the deposition of the Bunter's conditions, which there is no evidence to show, nor any reason to believe, are otherwise than of limited local occurrence. The fact of the existence here of the coal seams enumerated, and of those previously described as having been found at No. 1 borings, near Fair Oak Tree, is amply sufficient to determine the unbroken extension of the Cannock Chase coal field so far north, and to add several square miles of country to its previously ascertained area. There can now be no doubt of the enlarged extent and wonderful resources of this newly-discovered field, and nothing now remains to be done but to adopt the best course, and to devote every skill and energy in utilising to the greatest advantage those, comparatively speaking, inexhaustable and valuable stores of coal and iron it has been shown to possess. William Molyneux.
Branstone Lodge, Burton-on-Trent, Sept. 28.
—*Staffordshire Advertiser.*

A VISIT TO THE CHILLATON MANGANESE MINES.

Sir,—Amid the hills and dales of Devon, and at no great distance from the good old town of Tavistock, there is a spot where artists love to plant their easels, and take away their pictures. That spot is clothed in Nature's rich and flowing verdure, with here and there a gentle torrent from the mountain side to fill those rippling streams which wash the pebbles at the mountain's feet.

Musing on the rich luxuriance of organic life which spread before us in a thousand patches from a single point, all ripe for the artist's pencil, our carriage quickly turned aside, and we were driven down with extra speed through avenues of foliage, which as we halted opened to our view scenes of another nature, and which bore strong resemblance to the Chinese pictures of a tea plantation, with interesting water-courses, or toy channels, all made of wood, that ramify the garden. Add, if you please, to this well-known picture umbrellas of gigantic size, or, better still, some little sheds, to shade and shelter here and there those flowing streams; and for tea-plants and poor John Chinaman please substitute some scattered heaps of good black ore, like tons of broken coal, and the ruddy boys and girls of the county, and you have a view of the Chillaton mines as they appear on the surface in the valley. Studding the mountain side are cave-like holes in rabbit-warren fashion, which bore the earth for miles, and glory in the name of "adits." For London visitors these adits would be much improved by a little more head room, some gas illumination, and a cleaner footpath. From the subterranean passages and other holes, which find an outlet on the mountain's top, and bear the name of "shafts," up which the debris is raised that, scores of men are picking in a region dark as midnight. Ascending a shaft we enter upon a scene of wooden props, arranged in wild confusion one would think, with ropes and wheels and gantries, sticks and staves, and who knows what. Yet these are engines; they are for horses, not for steam; they pull the dirty debris from the lower regions to the light of day, and send it off with well-trained donkeys to a shoot—a long wooden box on the mountain side—where it is discharged with a rumbling noise, which the rocks do not forget to echo, and where it is subjected to the splashing influence of a great doosh bath. The dirt and clay have been washed away, and the debris is changed in appearance, and called an "ore;" but it is far from pure. Veins of quartz, carbonate of lime, or iron may be seen, and these have to be removed by breaking up the lumps, and separating the valuable manganese. Much of the ore has to pass through crushing-rollers, and ground almost to powder, so as to separate the valuable from the worthless; and this is done under those gigantic umbrellas or sheds, and in the wooden water-courses we have de-

scribed, by a process much akin to the washing of gold sand at the diggings. The crushed ore is placed in a deep-rimmed sieve (half full), and the sieve immersed in the mining stream to its lip, and so held for tittle with an oscillating motion—so that the crushed ore may gravitate according to weight, and on the withdrawal of the sieve the manganese, being heaviest, is found at the bottom. The top is removed by a scraper, with a dexterity known only to the craft. The same ore is so treated repeatedly, till pure manganese is obtained. As the water carries off the smallest and purest of the manganese, it is not allowed to pass out of the works till it has passed into a little lake, where it settles and deposits its riches.

Here we witnessed manganese in all forms and fashions—hard and refractory, soft and crystalline, radiated and coralated; fit for bleaching calicos, making gases, chemicals, German silver, and Bessemer steel. The increasing demand for this material excites the attention of the mining world at the present hour. From this, the largest manganese mine in the country, we can see due east the celebrated Longstone Mine, which was worked for Charles Tennant and Co., of Glasgow, and which produced such rich results; while intermediate there is Bowden Downs working on the same rich lode, and producing the same beautiful ore in endless abundance, together with a splendid iron, and to this young mine—the star of the district—we may invite your attention at another time. G.

THE ROMAN BOUNDARY MINE.

Sir,—In the Journal of Saturday you very properly animadvert upon the practice of obtaining fictitious premiums for the shares of new companies before they are legitimately placed, and you make these comments specially with reference to "newly introduced lead concerns." The Roman Boundary Mine is a newly introduced lead concern, but no such tactics are being adopted in relation to it. It may be interesting to some of your readers to know that while in order to be within the mark, the prospectus states that the sinking of the shaft would occupy 18 months. I am glad to be able to state that a provincial contract has been entered into with responsible men to sink the shaft 100 fathoms within eight months.

Liverpool, Oct. 11. —— H. Algernon Colvile.

THE WEALTH OF NATIONS—FREE TRADE AND PROTECTIVE DUTIES.

Sir,—The wealth of nations does not consist of indebtedness, nor in the luxurious indulgence of acquired riches. The true spring of a nation's wealth lies in its healthy labour and industry, coupled with its practical thrift and firm grasp of the products thereof. The indebtedness of a nation is usually the origin of its decay, and unhappily the last half-century has contributed mostly in "the growth of indebtedness" to the moribund condition of nations and States in their once flourishing commerce, trade, and expansive invention and manufacture than all other causes put together. No matter what polemical and political economists may say to the contrary, the true principles of national growth and of national wealth are to be found alone in the products of universal industry. Every man, woman, and child contribute when actively employed to the riches of the cornucopia. Liberal earnings according to their capacities, freedom for action, with suitable opportunities to enjoy the good results they have earned, are all that the masses require, and when relieved from the presence of demagogues and agitators embody all they desire. In England we are either "blessed or cursed" with free trade. There is no doubt that many advantages sprung up in favour of home industries, expanding trade and commerce, through the extinction of duties on manufacture, and the products of labour at home as well as the freedom from imposts on the importation of the necessaries of life from abroad, yet all thinking men must have seen at a glance that rivalry and competition would gradually arise and creep on in expansion till some of our industries would suffer, even if none had actually to succumb to the cheapness of labour and the abundance of materials abroad. The monopolies of 30 years ago no longer exist; advancement of education, the introduction of and adoption of railways, telegraphs, cheap postage, joint-stock and financial banks, and other radical changes in the conduct of business, and the intercourse of the people of one nation with those of another have changed the character and centres of action to that extent that "the men of the day" would scarcely be recognised by the merchants and bankers who ruled paramount only three decades ago. The commerce and trade of the country is now open to the competition of the masses; money, though all important, is frequently less valuable than intelligence and intellect. The post, telegraph, bank and finance office, with the railways, are open to all, hence money cannot buy exclusive knowledge, nor hereditary reputation stand alone, and withstand earnest competition. Industry may strengthen the former, but without its aid the application of it by the latter will soon supplant the other.

The introduction of joint-stock banks was regarded by private bankers not only as an infringement on their prerogative, but an affront to their dignity, and all but a capital crime from the magnitude of the insult. A quarter of a century shows the value of these institutions. Private bankers no longer dare to question their power, but avail themselves of their usefulness, utilise their resources, and in their eagerness for recognition fail to remember how recently they regarded them as arrogant trespassers. In their growth they swallowed up more private bankers than now remain to recount the splendour of their former grandeur, or the renown of their once exclusive proclivities, and singular absorption of the people's money. This change in finance is traceable to free trade, and but for the introduction of such institutions the volume of the nation's business could not be transacted. The post and telegraph offices are no longer a burden to us; they contribute largely to the revenue of the country, and are the greatest boons which society possess. They educate the community, promote industry, foster rivalry, and destroy monopolies. They bring intellects into action through the exchange of thought and idea; they convey information and every description of events from one source to another—town to town, city to city, nation to nation—all alike participate in the advantages. The price or charge per letter or message brings the transmission within the scope of all, and thus all are advantaged save former monopolists, who give place to strong intellects, fierce competitors, and earnest application to business under the fostering aid of free trade, which expands commerce, manufacture, and industrial products as regard bulk and quality, though in isolated and peculiar instances loss, if not actual ruin, may ensue. What I desire to impress upon your readers are these facts—namely, that free trade expands the volumn and quality of our products, manufactures, and industries, while in a few instances it extinguishes other branches of business that cannot withstand competition, exist without bolstering, or even remain self-supporting.

Some time ago we drew attention to the cotton trade of Lancashire, and spoke of the growth of manufacture at Bombay, and the probable erection of manufactories in other centres throughout India and China—the cotton plant being indigenous to both countries—while cheap labour can be utilised to any extent and with untold advantages. This is one of the events of free trade. Lancashire cannot withstand the competition of the United States and the European continent and thrive. Hence capital must go to India and China, where cotton and labour exist, or can be produced to almost any extent, free from strikes and strifes, and with a certainty of expansive and profitable markets. Another significant sign of the times is to be found in "Sheffield going to America." Messrs. Sanderson Brothers, steel manufacturers, have abandoned the attempt to compete with American makers of steel in face of the high protective duties levied in the States, and have resolved on the establishment of works at Syracuse, in the State of New York, thus carrying the war into the enemy's camp. This change is attributable to free-trade at home and protective duties abroad. English capital, however, follows the trade, and the profit will eventually gravitate to the Mother Country.

We may, in conclusion, observe that in commercial pursuits England's influence, intelligence, and energies are boundless when compared with France, Germany, Russia, Spain, Mexico, Persia, and China, while our dependencies and colonies are expanding and opening their treasures under the fostering care of the Mother Country. India and Canada, the Cape, Australia, and New Zealand teem in untold treasures—diamonds, metals, coals, rich and luxuriant spices, silks, and varied products, only require development to astonish the world with the bulk and the quality of their products, and it is free trade that must come to the aid of enterprise, and assist capital, and the sinews and muscles of the hardy sons of our soil. It is lucky that the Government of the day possess more earnest thought and practical insight into the requirements of the country than their immediate predecessors. They have not only to contend with strifes and conflicts between capital and labour, but they have to sustain the power, influence, and authority of the nation in the delicate and intricate relations they maintain with Europe and the United States in the fierce conflict for supremacy in the trade and commerce of the world. The very soul of free trade is to buy in the cheapest and to sell in the dearest markets, open for the products and the requirements of the masses. If metals and minerals cost us more than their worth to produce at home, why not develope and raise them in our colonies, or even in foreign countries. Free trade applies and affects such productions equally with cotton textiles, machinery, and manufactured materials and goods generally, or even the growth of corn and of beef—the essential elements of life. Free trade fosters imports as well as exports, consumption at home as well as abroad. The great and chief object is to destroy monopolies, and to throw open the wealth and commerce of the world to the intellect and intelligence of the commonwealth—*de facto*, to produce in any quarter of the world open to the protection of capital and life the necessaries of the day, and to realise the products in those markets which afford to commerce the greatest scope of gains.

Capital will have to raise mills and follow trade in cotton textiles to India and the East, so also must capital and miners seek distant fields for profitable investment of money and labour in India, China, Persia, Spain, the Cape, Canada, and other countries; then, the products of gold, silver, lead, copper, coal, iron, and other metals and minerals will enrich their industry, and revive the supremacy of England in open competition with the most favoured of her rivals in supplying the wants of the world with her manufactures, whether of the loom, the workshop, or the factory. We possess clear heads and hardy artizans, mechanics, engineers, and pioneer workmen, enough for home and abroad, and it is time now that the problem should be solved. How far can we go on exhausting the remaining stores of our metal mines at home, and profitably contend with supply from other countries? The cry is advanced wages, yet capitalists are already paralysed; with many, bankruptcy imminent.

City United Club, Ludgate Circus, Oct. 11. R. Tredinnick, Consulting Mining Engineer.

DIVIDEND AND PROGRESSIVE LEAD MINES.

Sir,—There has been another week of suspended business on the Stock Exchange, and throughout our markets generally. Railways, colonial bonds, foreign stocks, and industrial pursuits share in the stagnation, though unquestionably the two first and the last comprise the stable securities open for public acceptance. British mines continue to pay well, especially those of lead. Many are in request at advanced quotations on a month ago, and are evidently supported by the regular and large dividends declared, mostly quarterly or four-monthly—Great Laxey, 20 to 21, dividend 10s.; Roman Gravels, 13 to 13½, dividend, 8s. 6d.; Van, 38 to 39, dividend, 16s.; Tankerville, 10 to 10½, dividend 5s.; Minera, 20 to 22, dividend 10s.; Great Dyliffe, 4 to 5, dividend 2s. 6d.; Grogwinion, 5¼ to 5⅝, dividend 2s. 6d.; Lisburne, 65 to 70, dividend 2l.; West Chiverton, 17½ to 18, dividend 10s.; West Wye Valley, 3 to 4, dividend 3s. Again, in the sound progressive list we have Pateley Bridge; Denbighshire Consols; Dryburnside, 50 to 52½; East Van, 9 to 9½; Glenroy, 4 to 5; Glyn, 2⅝ to 3; Ladywell, 1¼ to 1⅜; Leadhills, 7 to 7½; Llanrwst; Pennant, 5½ to 6 ("prospects advancing"); Pennerley, 1⅜ to 1½; Snowbrook; St. Patrick, Success and Sunnyside, Van Consols, West Craven Moor, and West Pateley Bridge. The peculiar and inherent worth of these prospectively prosperous mines vary much, and though they mostly embody the elements of success, investors will even do well to consult practical authorities ere embarking.

It is not always desirable to purchase shares at quoted prices, whether low or high. Time and money are elements in mining as in all other industrial pursuits, hence pioneer points of operation, costs of realisation, time required, importance, number, and character of the objects to be achieved, facilities of development, discharge from underground, coupled with power of dressing and returning charges at surface, distance from smelting houses and cost of carriage, royalty, unexpended capital, soundness of proprietaries, management, whether practical or theoretical, with many other circumstances and desiderata affecting the value of mining enterprises, should be understood and fully comprehended by purchasers, then sound and well-selected undertakings are associated with minimum risks, and stand forth as a medium for profitable employment of capital beyond almost any other class of home industries. This is encouraging to the miner, who of late years has sought distant and remunerative fields for his enterprise, rather than restrict his operations to a few localities, hence the primary cause why North Wales, Yorkshire, Shropshire, Durham, Cumberland, Westmoreland, Derby, the Isle of Man, Scotland, and other localities present us with so many examples of substantial and brilliant gains, with a numerous string of satellites that bid fair to astonish the public with the rapidity and strength of their products.

Cornwall, doubtless, possesses large tracts of lead-producing strata, highly charged with mineral, and at the present price of that metal the numerous lodes should be opened and worked with spirit and liberal expenditure, as the profits will, under practical management, unquestionably become remunerative and in many instances all but certain.

Everyone waits to see what will be the issue of the Eastern imbroglio, and there is, therefore, little to interest the general investor. Alterations in prices are frequent, and arise from fitful and frivolous causes; these only affect the speculator who floats in time bargains on the surface current of events. Investment and gambling are as wide apart as the Poles are asunder; the latter should be avoided by the former. You cannot touch pitch without being contaminated, nor can honesty associate with methatophalites and thrive. No one can be far out in buying Great Northern, London and North-Western, North British, or Midland stocks, nor can purchasers go far wrong in buying standard American and colonial stocks; of the latter Canada, Cape, New South Wales, and New Zealand are safe as regards dividends, and though the interest is low yet the percentage far exceeds that of Consols and our home Government Stocks.

Again, our metropolitan joint-stock banks, several telegraphs, Forestreet Warehouse, and various miscellaneous shares are worthy of attention, still the prizes which fascinate the greed of capitalists are to be found in mining, We may ask what other industry can compare with it, where springs such trumps as the Van, Great Laxey, Minera, Tankerville, Snailbeach, Roman Gravels, and Grogwinion of the present day, or as Lisburne, Cwmystwith, East Rose, and Grassmore, with a host of others, that not only enriched the present century, but called into existence many of our most distinguished families, and formed the nucleus of our richest and most powerful merchants, manufacturers, and bankers, who otherwise would probably have died as they were born—mere ciphers in the cornucopia of life.

In conclusion, I would draw special attention to Pateley Bridge and West Pateley Bridge, in Yorkshire. The first can be purchased at about 12,000*l.* for the entirety, and the latter at about the same price. The former has been at work with slight intermissions for 500 years, though operations were carried on at and above the day level. The tunnels exceed 10 miles in length, and upwards of one million sterling has been yielded. The lead is smelted upon the mine, and operations are now being extended in depth with every chance of opening out vast sections of profitable lead-bearing veins, which are 26 in number, run in various directions, and form numerous intersections, at these points the discovery of mineral deposits is all but certain. The West Pateley Bridge consists of 3000 shares, of 5*l.* each, and from the stagnation in business they can be purchased at 20 per cent. discount. A parcel of about 30 tons of metallic lead, worth 20*l.* to 22*l.* per ton, is about being sold. The whole grant is full of lead-bearing lodes, running at varied angles both in length and depth, while it is a characteristic of the district to form rich deposits at the junctions. The future is fraught with promise, and should recent discoveries become permanent the sales must rapidly augment, while point after point will be speedily and economically developed. R. Tredinnick,

City United Club, Ludgate-circus, Oct. 10. Consulting Mining Engineer.

IMPORTANT MINING DISCOVERY NEAR ST. BLAZEY.

Sir,—Although there exists so great a depression in mining there is a gleam of hope for St. Blazey and vicinity. I am glad to say that near St. Blazey Gate an old miner, a tributer for 40 years, Richard Prior, in sinking a well for a pump on his premises (about half-a-mile from the Old Par Consols), has cut one of the copper lodes on which that mine was worked. The well is 7 fms. deep, and the lode is as good in its character as was ever cut in the district. The lode is 2 ft. wide, with large rocks of grey copper ore, and possesses every component which a good lode should, and gives every indication that it will prove as productive as the Old Par Consols, which gave enormous profits, and never made a call. A great number of the best miners are daily visiting it, and everyone gives as his opinion that the lode will warrant a steam-engine and machinery being erected and worked vigorously, or drive the Par Consols adit north and cut the lode, which is but a few fathoms away. I am strongly of opinion that this would turn out a good paying concern if machinery was to be put up and worked, as was done on the south part of the old mine. I saw in the West Briton of Sept. 28 a letter written by Capt. Rich, of St. Blazey, which is full of good sense, and is of a miner-like manner and quite true, and I fully agree with him that such mines can and will be found as he mentions. I know the lodes and places named, and agree with him that all that is wanted to develope the properties are money and energy. The mineral is in this neighbourhood, and profit-giving mines would soon be found if money was forthcoming to try them.

St. Blazey, Oct. 10. —— Thomas Mayne.

SOUTH CONDURROW MINE.

Sir,—It is no small satisfaction to see in these dull times such a balance-sheet as was presented to the shareholders at their last meeting. With tin at 43*l.* per ton, showing a profit of 1200*l.* in 16 weeks, is really cheering; in addition to this, I hear some 18 tons of tin have been sold for the new account in a week after the meeting. If I mistake not the total profit realised, including debts and arrears of costs paid since the change of management, in round numbers amount to 10,000*l.*, notwithstanding the fact that the price of tin has declined during the same period some 12*l.* to 15*l.* per ton. This forcibly reminds me of a long letter which I once saw written for the use of the committee by a Liskeard gentleman about the time the management was being changed, complaining sadly about the proposed change as being likely to ruin the mine and injure the shareholders generally.. Yet, in a very singular manner the name of another manager was introduced as being the best in the world. The reasons given, however, for this extraordinary opinion were by no means satisfactory, and therefore the whole thing looked like a puff advertisement on behalf of this wonderful manager. If, on the other hand, there was *bona fide* fear lest the property would be injured by the change, and this should meet the eye of the author of that letter, will he kindly account for the above results after a trial of about two years, and state whether they are brought about by "picking out the eyes," as intimated, and suspending tutwork operations, and oblige one, as well as others, who have in the mine only a small— —— Interest.

SOUTH CONDURROW.

Sir,—It must be gratifying to the shareholders in this mine to find, notwithstanding the depressed state of the metal market, and the low price of tin, that is has paid a dividend of 3s. 6d. per share; and yet the shares stand relatively, I presume, the lowest on the market, the prospect of the mine appears improving.

Belfast, Oct. 9. —— An Irish Shareholder.

POSTPONEMENT OF PAY-DAYS.

Sir,—"Fair Play" is hereby informed that the postponement of the pay of Cape Cornwall, and also at St. Just Amalgamated, was, I believe, that of the last that should have been made, for the company, as I understand, finding the mine a losing concern determined to stop the works. But the pay ought to have been made. The non-payment was attended with legal costs, which the company had to pay. Considering that it was the only pay ever postponed there, the men ought not to have been so ready to take out summonses against the company. They did it at once, without first waiting to enquire of the purser whether the money would be forthcoming soon or not.—*Oct.* 9. —— R. Symons.

KILLIFRETH MINE.

Sir,—Having been requested by a shareholder in this mine to supply him with information as to its actual condition and prospects, I have done so privately, but I think that your readers and other shareholders might like to be so informed also. The late Mr. Edward H. Hawke, of Tolgullow, near Scorrier, was the purser a few years before his decease, which occurred about eight years ago, He held a very large interest—rather too large. I remember that he was very sanguine of success, but the steam-engine which his company erected for pumping was so small that when the sinking of the engine-shaft reached the 40 the income of water deluged the mine, and operations, therefore, ceased. It was Mr. Hawke's intention to resume operations as soon as he could command funds for the erection of an engine of adequate power to prove the mine, but death intercepted his object, and the mine remained idle until Jan., 1872. In or about that month the present company obtained from Lord Viscount Falmouth a lease for 21 years, at 1-20th royalty. They have since erected a pumping-engine of 40-inch cylinder, which was set to work about 18 months ago. Afterwards a 14-inch steam-whim was erected, and at present a stamping engine of 32-inch cylinder is being erected, in the first instance to lift 32 heads, but the engine power is sufficient for 100 heads. The stamps plot adjacent, on a piece of waste land, is being laid out for dressing operations. It has an inclination such as the various appliances, round buddles, &c., require.

The length of the sett is upwards of a mile on the run of the lodes, which are some of the Great Wheal Busy lodes, and the sett embraces the western portion of that of Wheal Busy—as it was. It is bounded on the west by Scorrier, and on the south by Unity Wood Mine. The situation, therefore, as you will perceive, is in a district famed for its mineral wealth (what is well known as the Gwennap district), for it is bounded by Gwennap parish. I have been informed by a mine agent that there are four known lodes in the sett, but the operations are at present limited to two of them—one a tin and copper lode, and the other a copper lode. The depth of the engine-shaft is 50 fms. under the great adit, which is about 40 fms. below the surface there. The levels are 20, 30, 40, and 50 fms., the last only lately reached: driving at the 50 to commence next week. The 30 fm. level west is unproductive, but in the eastern end there is a vein of copper worth 20*l.* per fathom. There is a parcel at the surface worth from 8*l.* to 10*l.* per ton. The 40 has been driven through a rich bunch of tin 50 fms. in length, worth 20*l.* per fathom for all that length; it has been cut also in the 50 fm. level. There are several winzes being sunk through the lode, each of which is estimated at 20*l.* per fathom and upwards. Several pitches are let on an average tribute of 5s. 9d. in 1*l.* There is a new shaft on the copper lode now down 30 fms. under the adit, where they have commenced to drive. Now that tin is so low it is well to have copper returns to assist the payment of costs, although it is not improbable that the company will be able, after a few months, to divide profits from tin returns alone. There are now on the floors hundreds of tons of tinstone waiting for the reduction process—the battery. The tin hitherto returned has been pulverised by one or two small water-stamping mills in the Wheal Unity Valley. The tinstone is accumulating daily. I have learned that the total of the calls made on the shareholders is 22s. per share—that is to say, in all 6500*l.*, over a period of four years and nine months. I presume that very little more subscriptions will be required before the scale turns. The official staff consists of the following gentlemen:—Purser, Mr. J.

Tregoning, bank manager, Truro; manager, Capt. T. Googh, Falmouth; resident agent, Capt. J. Paull.

I think that the purser has plenty to pay, the list of shareholders extending to 180 in number! Several of them (two or three) hold 500 shares each, and there are others having only one or two shares each. The shares are quoted at 5s. 8d., but it is a wrong quotation, for there are no sales, if my informant is correct.

Truro, Oct. 9. R. Symons.

SPEARN MOOR.

Sir,—An official in this mine has written me to say that I had not his authority for reporting that this mine is likely to stop. I am aware that "rumour" is not always true. R. Symons.

Truro, Oct. 10,

AN EXTRAORDINARY MINE—*ERRATUM.*

Sir,—In my letter of last week I see an error, which escaped my notice in the MS. sent to you. Instead of saying that from the Lumburn branch of the adit they had to rise, it should have been said that they had to sink to meet the Tamar branch of the adit.

Oct. 9. R. Symons.

THE NEW RAILWAY BREAK.

Sir,—I had ocular evidence yesterday of the superiority of the new over the old railway break. On walking over the branch line (Cornwall Minerals Railway) leading from Bugle to Rosemellyn I met two pigs running over the line. I drove them off, when I saw a train approaching. Before the pigs had gone far they went on the line again when the train was within about a chain of them. The application of the break stopped the train when the engine fore wheels were within one yard of the pigs. It was a narrow escape, which would not have occurred with the old break—one of the pigs would have been c t in two.—*Oct.* 11. R. S.

WHEAL GRENVILLE, AND Mr. LANE.

Sir,—The worst feature in Mr. Lane's advocacy of Wheal Grenville is that he cannot avoid the personal attacks and animus that have characterised his proceedings throughout; and which, as it appears to me, have thrown into the subject all its bitterness.

Anything that the late secretary did or anything with which he was connected must be dragged into the light and reflected upon, but I would suggest to Mr. Lane, if he is so fond of figures, and of being thought the "purist" of the Stock Exchange, that there are many readers of your Journal who, by way of variety, would gladly see him use his dissecting-knife on some of the Welsh mines, which he has the credit, perhaps erroneously, of being connected with on the Stock Exchange, and which certainly proved to vendors and promoters something better than "Turkish Bonds."

I will this week call his attention to only one—Caegynon—of which he was director, if not promoter. It came out on the Stock Exchange in 12,000 shares of 2*l.* each—was puffed up to 50,000*l.*, and after a short and somewhat inglorious career was shelved under private liquidation, and heard of no more.

Will Mr. Lane, with the same dexterity and skill that he has depicted for us the Grenville accounts, tell us how much out of the 24,000*l.* paid by the company for Caegynon—to say nothing of the premiums in shares afterwards—went into the pockets of vendors and promoters, and what has now become of the property?

A Shareholder.

WHEAL GRENVILLE, AND ITS MANAGEMENT.

Sir,—Our friend Mr. Lane continues to accuse me of being a perverter of facts, and is evidently losing his temper. If he so soon parts with it what will he not do before I have done with Wheal Grenville, and its management? He now goes into figures, which he challenges the late agents to disprove. What has all this to do with the main point? At the last general meeting Mr. Lane entered into some figures, which he said were taken from the published statements of the late management for seven months, from February to August, 1875. I said, in reply, and I adhere to what I stated, that it is impossible that Mr. Lane could have obtained his figures from those printed statements. As to his challenge to the late agents, considering how he tried to damage their reputations, I should think they would never condescend to notice it, particularly as to enable them to test Mr Lane's figures they must have access to the books of the company, and how likely Mr. Lane would be to allow such an inspection may be gathered from the fact that not long since one of the late agents inspected the mine for a shareholder, and I was told on asking to see the tin-book he was refused. Under the old management inspecting agents were always invited to inspect the tin-book. Now, with regard to the salaries; in my former letter I distinctly alluded to the *local* salaries only, but Mr. Lane's present figures include both London and local. I am assured that the late secretary's salary was 10*l.* 10s per month, and which included office rent; the 3*l.*, making the amount of 13*l.* 10s. mentioned by Mr. Lane, being a charge for office expenses. If this be so Mr. Lane ought in fairness to have added the present amount of office expenses to the present secretary's salary. Those expenses I see by the published balance-sheets of the present management were, for the month ending Dec. 31, 1875, 14*l.* 2s. 9d.; Jan. 27, 1876, 12*l.* 9s. 9d.; Feb. 24, 6*l.* 0s. 10d.; March 23, 18s. 10d.; April 20, 6*l.* 6s. 5d.; May 18, 12s. 1d.; June 15, 6*l.* 10s. 6d.; July 13, 9*l.* 7s. 3d.; Aug. 12, 1*l.* 8s. 2d.—being a total of 58*l.* 16s. 7d. for nine months, or an average of 6*l.* 6s. 3d. per month. A portion of this, however, is for printing, and another item or two, which may probably be considered as not coming under the head of office expenses. But what I have written will show that, whilst calling me a perverter of facts, Mr. Lane can be extremely partial in his own representations. In his statement of the local salaries he calls Francis Hodge clerk, whereas this party, I am told, is purser, and there is a clerk in addition, and whom Mr. Lane does not mention, whilst in the list of former agents he puts down as captain a person whom I am also told was simply the night watchman. Mr. Lane is extremely jubilant over the last sale of tin as being the largest ever made from the mine for one month. I told you in a former letter that it was possible the returns of tin for this quarter might exceed the last, as a considerable quantity of tin was being broken from the bottom of the 130 east from north shaft. There is nothing, however, in all this for Mr. Lane to boast about. The tin is not a new discovery made by the present management. It was laid open by the former agents, and Capt. Hodge knows as well as I do that they would not have left the tin standing for him to take away if they could have worked upon it, but the ore could not be taken away till the level was drained by the 140, which has been effected by the present agent, and the back and bottom of the level are being now rapidly stoped away. This is the cause of the large sale of tin, and it is just possible another one similar to it may take place, but how long will it last? Can this run of rich tin ground be depended upon for a month or even a week? And when it fails, and no other part of the mine improves, what will the tin sales then amount to? Let me ask Mr. Lane if it is not an unperverted fact that there are four levels opened upon this lode the 160, 150, 140, and 130—and that the total number of men employed in driving these levels has been eight, whilst in the 130 alone 26 men have been employed in stoping the back and bottom of the level? Yet Messrs. Lane and Hodge tell the shareholders that more ground is being laid open than is being taken away, and every statement by me is represented as being made knowing it to be false. At the last general meeting Mr Lane distinctly led the adventurers to anticipate a further outlay of 5000*l.* for machinery; now, after I have exposed the folly, he says he "does not justify the conduct of those who made the recommendation," evidently seeking to shift the responsibility on to other shoulders. And in any future trouble or disaster that may occur I shall be much surprised if Mr. Lane does not come forward with a similar plea.

And now for Mr. Lane's enigmatical remarks about his not having put all his means into one basket, nor his money in Turkish Bonds. And then he gives me a dig in the ribs, and a wink of his intellectual eye, and says "You know what I mean." Now this is just what I don't. I have committed a good many follies in my lifetime; but putting all my *means* (I suppose Mr. Lane alludes to the old proverb, and meant to have said *eggs*) into one basket has never been one of them, and simply because I, alas, have never had many eggs to dispose of. I am only—

> "A poor discarded miner without pay,
> Fit only now with rusty picks and shovels
> To hang in a material house till better times
> Re-turnish me again. So poor, indeed,
> I can but leanly cater for myself,
> Much less put egg in baskets."

I happen to know a good many worthy individuals down here who have, unfortunately, put their money in Turkish Bonds; but, bad as the prospect is for future dividends, I think the parties may congratulate themselves that they do not hold shares in a certain mine. Mr. Lane is evidently labouring under some delusion. He intends to be severe upon my poverty and imprudence, and to contrast them with his own wealth and sagacity. Heaven knows it is a bitter hardship to be poor, but it is worse to be taunted with it. To be accused of imprudence I do not object to, for in that respect I can retort upon my assailant; but to be reproached for one's poverty is a cruel insult, and it is keener coming from a person who while he inflicts it leads the world to imagine that—

> "In by-corners of
> His sacred room, silver in bags piled up
> Like billets saved and ready for the fire.
> . . . . . rubies, sapphires,
> And ropes of Orient pearl.
> . . . . . here lies
> A manor bound fast in a skin of parchment,
> The wax continuing hard, the acres melting.
> Here a sure deed of gift for a market town.
> . . . . . there being scarce a shire
> In Wales or England where his money is not
> Lent out at usury."

Let us imagine the former agents of Wheal Grenville bound and led captive, like Caractacus of old, through Threadneedle-street to the office of the modern Claudius. Would not those agents in the agony of their degradation exclaim—How could a man of such vast wealth and power envy us the management of a poor Cornish bal, and stoop to such unfair means to deprive us of our humble salaries?"

A few words more and I shall have done for a little while with Mr. Lane and Wheal Grenville. Mr. Lane thinks it possible that I may be interested in endeavouring to purchase shares at low figures, and, therefore, I am not scrupling to make damaging insinuations to attain that object. He is here labouring under another delusion. I have never tried to purchase a share in Wheal Grenville under the present management, nor have I the slightest intention of ever doing so. When I tell you, Mr. Editor, that it is not long since I was offered some shares through a friend at a very low price, and refused them, it will hardly be thought that my letters are written with the object Mr. Lane insinuates. I can assure you, Sir, that I should never think of putting even an addled egg in any basket under the control of Mr. F. G. Lane.—*Cumborne, Oct.* 11. F. L. A. T. Rodda.

WHEAL GRENVILLE.

Meastur Editur—Honorud Sur,—Hope tes no offense writen ee agen, but I waant a lettul moore chat weth ee touchen Whull Granvull, and my letturs do look that braave en theere high produs papur tes good to see un. I doant knaw nothen else like et sept tes a good koorse of oore all shinen and glestenen up and down wuns petch, and at too thurds en the pound trebbut. Augh! my tendur deer, that is a theng wun doant often see now-a-days, I can tell ee, but I've had un en my time, tho sech es minen theyve jinerully kum a day or too afoore my bargun wor out, and I had to swet like nothen to maake the moast of un. Joey Desmul, wun of my pare—hes name essen Desmul, tes Wortha, but we do caal um Desmul bekase he do petch the tewns en our Chappul an hev got a serius looken faace ov um like a feddul. A pious man, Meastur Editur, though the owld chap can git as vecks as fire and sweere a bet sumtimes, and then he do say the humun mind es like an injun biler, et must have a safety-valve sumwheere. Well, Joey es fine and prowde to see me steckun up for the Whull Granvul owld agents, and he ses my letturs ought to be set to mewsick, but Siah Bosanker do thenk they would look and reed moore fittee ef my spellun wor bettur. Wot's theere rong bout my spellun, I should like to knaw? And last weak he lent me a book cauled Wawkur's Pronownsen Deckshonerry, but bless ee, I caant make hed nor tale ov um. Semmy, to me theere essen a wurd spellt correckly en the hole wollyume! That a proppur pronownsen wurk! I wuddent gev a feg for un. Tes nothen like down weth we, and I tell ee wot tes, ef owre Kornush langwedge wor moore unevarsallee spok theere wudden be haalf so much desepshun and highpokresee en the wurld; no, theere wudden, and they be thengs I caant abiede. Trew and dew es owld Benny's motter. Well, I red theere repoort ov the Granvull meeten, and ded ee evvur see sech an owld butie as that theere Meastur Lane? Comparen hes manedgmint weth the owld, and maken out hes es a fine passul bettur. Wot's he dun to make sech a cry abowt? Why, he haven increese the returns a pennywait, an he do knaw et, an yet he goes and tells the adventrers he always sed the returns wud encreese ef the manedgemint wor changed. Ded ee evvur heere tell ov sech empedence? But, I rekkun Meastur Rod la hev ecksposase um prittee smaurt, and no mestaake. And then desp ten weth the marchants. Tell ee wot tes, Meastur Editur, theere's too much sed agen the marchants by a longway, wen tes well knawn tes by they not pressun for paymunt jest all the mines es bein carrud on; and the Wheell Granvull mittee may spake and dale hie and mitey jest now, but tessen goen to be always so, I can tell ee, and by-and by, wen they waant creddit, they well find 'twount be so aasy.

Why theere wudden be a mine at wurk at the pressen moment, devedend nor no devedend, ef et hadden been for the marchants trusten um, and then to see at moast evrry mine meeten sum lowd tualken chap runnen downe theere best frends in times gone by, tellen abowt getten cheeper kole and uther materials, ov uther partees who may be nevvur adventerd a shellen en a bal. I've no pashunce weth un. Tes haaf dun I blaave to see theere naames en prent, an to be thawt clevvur. Well ef et hadden been for the men they do now abuse wud theere own naames evvur hev been hurd ov I shud like to ax um? Augh! I hate sech oogly ways. Ef a marchant hev trusted ee wen things wor unkeenlee weth ee do not turn rownd on um wen theert gitten on smurt. Doant say to un like thes, "No gentelmun wen we wor a driven en steff and poor grownd we weere glad ov theere creddut, and much oblidge for et. But weve aasy grownd now, and payen ends evry wheere afoore us, and are doen smurt, and doant waant ee to slst us, so en duty to the enterests ov the adventrers we must see ef we caant get our materiuls cheeper elswheere." Now thes es jest as tes, and simmy to me thee essen a bit ov raasun, grattectewd, nor no othur proppur feelen en minen, laven owt we trebbutturs, and look how *we* do git trauted. We taake a bargun en spare, poore grownd, say for ten shellun en the pownd for too munths. Well for sevun weak may be we doaant maake thurtee shellun a munth, and the laast weak we kum pon a good bunch ov oore, which do all we can by un we caant wurk clane owt, nor keep the cappens from seeun when our stent eckspires. Well now, Meastur Editur, lev me ax ee, doant ee thenk as we deskovurd the oore we aught to hev petch agen at same trebbut? Ov koorse we shud, but tessen so at all; they cappens we l, sum ov um, cut us down to a price as low as their own noshuns ov wot es rite between man and man. Besides Cappen Odges's repoort I see wun from Missur Jon Ockun pon the masheenery. Now why deddun a tell the kumpany in a few wurds wot aught to be dun.

He do know as well as I do as to putten up anuthur injin ef the bal wor wurked as she ought to be, and as Cappen Edwin and Cappen Will wud hev advised at present law price ov tin; theeres no more want ov anuther injin at Whull Granvull then theere es ov a sevuntee to draw the watter en our back yard. Ive knawn the bal ten times as poore as she now es, and theere essen a prettiur pace ef minen ground en all Cambun destreck, and ef I had the manidgement ov et Ide soon shaw ee wot ought to be dun. I tell ee the pressen pare is all abroad en wot theere doen, and ef they doant soon hold on a bet theere'll be mirdur sure nuff kum wenter. Ef the adventrers allow theeres lves to be perswaded to lay owt five t housen pownd Meastur Lane and Cappen Odge do talk abowt, all I do knaw es they well be biggur Billy Lunies than theyve yet shawed theereselves to be, whech es sayen a good dale I rekkun. I've wurked on trebbut now cloase pon fefty yeere, and I thenk I do knaw tin and sumthen bowt minen. The pare as es now manidgein Whull Grunvull may turn up theere noases at me and say I me neath theere notus, but the adventrers well find owt by-and-by whos right and whos rong, and that owld Benny wornt seeh a fool after all. Well heere now, Meastur Editur, are ee like to kum into Cornwall soon? Ef ee be I do hope theelt kum and see me, I shud like to tich pipe weth ee pon minen matters. I can only offur ee a wudden cheer, and a sandud planchun, but I'll gov ee a harty welkum weth a kornur pastee ef ee do like un, or Lisa Jaane, that's Measus, well be prowd to make ee sum cabbidgy broff or a tatie kake whech evvur ee mind too, and I'll try to rise a drop ov toddee ef I hev to go wethout a strake ov poork en my Sunday pastee for sex yeere, and Ive dun slite sure nuff the laast munth or two. I caant prommus ee good bacca, for wot we do git heere es poor traade, so thee must breng theere own, but I'll borrer a long clay fir ee, and do my best to make ee kumfurtabel. Weshen luck to ee and all absen frends I remane honorud sir your unbel servunt,

Bikker, Sept. 27. Benny Popputhed.

PENHALE WHEAL VOR.

Sir,—Breage at one time was the greatest tin district in Cornwall, the whole surrounding neighbourhood being busily engaged with mining, but where is it now? The great depression in the tin trade has brought it, like many other districts, into a very distressed state; to-day, however, I was proud to hear there is yet one bright hope in store—that is, the Penhale Wheal Vor. This mine has borne through with great energy, and sunk the shaft to the 200 fm. level before extending many levels, knowing it to be a deep district for wealth. It appears the shareholders are determined to bring the mine to a success; undoubtedly there is a great mine in store, and who is more worthy to have success than the Penhale Wheal Vor adventurers? If the wishes of the inhabitants of the district could bring it they would have been crowned with success long ago. The vigour and determination are still going on, and they are now driving five ends east and west. In the last month's working they intersected a splendid lode in the 180 end west; I have seen some of the stones from the lode, which will produce 50 per cent. for tin, and also in the 190 I hear the lode is much improved in character, and yielding some good tin. It is generally believed by the miners that the western ground will be found the most productive part of this great mining property.—*Breage Church Town, Oct.* 10. R. H.

MINING IN CARDIGANSHIRE.

Sir,—In paying a visit to the mining districts of Taliesin and Talybont last week, I was much pleased to find that a company was about to start the old mine known as Bryn-r-Arian, which has for some time been allowed a little holiday, but for what reason I cannot say, since I am told that there is still a branch of beautiful lead ore to be found of about 6 in. or more in width. Surely with such a branch as this it would be very foolish to allow mines to be stopped, but it is a fact that in many mines in this county which have been lying idle for a number of years, on being opened again plainly show that splendid lodes have been left behind, either through lack of a clearer sight in looking after things, or for want of a good sound practical mining engineer to work a property of such description.

I remember the time when I worked in this mine, now about 26 years ago, when in the adit level east of shaft stoping underhand we came to a branch of lead, if we may call it a branch, of about 14 in., or, perhaps, 16 in. of solid lead, and the stope about 8 fms. long, as far as I can now remember, as from that hour to the present I never saw that stope again, having had to go through the world as mining engineers in general have to do. I have often been underground in this mine, and remember the sinking of the shaft from the adit to almost the present depth, but cannot speak of the appearance of the ground. I have been reminded of the enormous quantities of lead that have been sold from the ground west of the shaft, far superior to the eastern ground. They must have had a good mine at one time, and why (unless the lode is altogether lost) shall they who are so bold as to go into it not be as successful as those who preceded them? The mine is but very shallow, the ground westward running away towards Borth Sands through the extensive plains of Taliesin and Talybont, to the foot of their next mining neighbour. The Tan yr Allt, which I will directly speak of to the best of my abilities, but I fear will be altogether far beneath what it deserves, but looking at the different advantages that the new company of the Bryn-r-Arian mines have in their favour, I cannot see why they shall not be equally as successful as the former companies working this good little mine, seeing they have the advantage of carrying in adit levels to the depth of the hill from the surface of the plains below, and the Queen's highway running through the sett within three miles to the railway or shipping box of Ynys Las, and in a very beautiful and quiet neighbourhood.

Now, then, for Tan yr-Allt Mine, which is immediately to the west of Bryn Arian, but not upon the same lode, the chief working of this little gem is on the north and south lode, although east and west lodes may be seen in the adit level about 12 fathoms, after going through the north and south, tyet as they come together the east and west goes into the north and south, and so far lost to the mining world, nor could I find a glimpse of it in either level below, although, remember this, reader, it will some day show itself in greater strength, if not in greater riches, than the one which has for a season carried it away. This to a non-practical man seems a mystery, but some one or more will see it in this or in generations to come; in this, if the mine is not knacked, I shall see it, and so may those who now would consider it a curious phenomenon. The shaft, which is named after my late father Trevethan's shaft, was, of course, sunk by him or his orders, and in course of time was for the want of lead ore stopped; and although different companies have plodded with the workings on and on again for years since my father left the neighbourhood, and have at times been rewarded with a good supply of lead ore, yet not until the present proprietors, through their energetic and pushing officials, began to send the shaft a little deeper, so as to be down another lift, when to their surprise (perhaps they sunk 18 in. deeper than where it had been allowed to remain for years) they came upon the ore—as people of the district told me in the town of Aberystwith on the Monday previous—not like lead but like coals; people will talk, so I went there on Wednesday to see for myself, and I was also satisfied. The mine is 24 fms. under adit, levels north and south are being driven, a nice branch of lead ore in each end, both boiling with water, but no whiskey. In one bargain—a stope—I saw there I should suppose it to be worth from 3 to 4 tons of lead to the fathom of ground, it may be worth a deal more. I was thorcughly satisfied and highly gratified, and only hope and truly believe that the two mines I have so far tried to speak well of may prove to the satisfaction of all who may have any connection with them. I would here thank the different parties whom I met on the mines for their kindnesses to me on the first visit to these mines for over 20 years, and as I shall be going into the neighbourhood of Talybont again next week to visit the Allt-y-Crib Mine, and so on away to the West, even to the western mine in that district, I may call again to enquire after the welfare of the management and the present condition of the mine.

Rheidol Cottage, Oct. 11. Sampson Trevethan,
Consulting Mining Engineer.

MANX MINE.

Sir,—No doubt many of the readers of the Journal would be glad to know how this property is going on. The authorities did now and then issue a report, but this seems to have been dropped for some time past. Why is it not inserted? The share list was closed about Midsummer last, with excellent prospects from the number of shares taken up. There was a talk of over 100 tons of ore being got ready for market, if not already sold, and that the mine was opening out well, although with confessedly limited means. They were to have crushing apparatus at work, &c., and altogether the statements made were of a highly encouraging character. How is it that a death like silence has been the rule since? Why cannot the management vouchsafe through the Journal some little information, provided it is thoroughly trustworthy. Wake them up, Mr. Editor, and oblige

Weekly Reader.

COURT GRANGE LEAD MINING COMPANY.

Sir,—I shall esteem it a favour if some of your correspondents will kindly inform me if the above company is at present in existence or not, as I find it is removed from its usual place in your Share List. There has been no meeting of the shareholders convened for the last two years, nor has any account of the proceedings of the company been forwarded to the shareholders during that time; indeed, they have been treated as if they had no interest in the concern. Two years ago it was stated that there was a large amount of money available for the development of the mine, but immediately after the said meeting, instead of developing the resources of the mine, all work was stopped except the keeping of the water out of the mine. One would imagine that the least the directors could do (one of whom is an M.P.) would be to give an account of their stewardship to their shareholders who elected them to protect their interests, and not to flitter the capital away in salaries and management expenses. I trust the London shareholders, if there are any, will insist upon a meeting being held immediately, and so learn what state the concern is in.

A Shareholder.

[For remainder of Original Correspondence, see to-day's Journal.]

FOREIGN MINING AND METALLURGY.

The winter season promises well as regards the Belgian coal trade. The deliveries have become of sufficient importance during the last few days to absorb almost everywhere the rolling stock on the Belgian State Railways, which, for the rest, is usually found inadequate at this season of the year. Many of the collieries have some important contracts. Several of them, especially in the Liége basin, have their production fully engaged until February, 1877. The apparent revival in affairs has not at present exerted any influence upon prices, which remain at a very low level. The improvement in business of which we have been speaking applies more particularly to domestic qualities of coal. Coal for industrial purposes has been rather neglected. The imports of coal into Belgium in the first eight months of this year amounted to 490,000 tons, against 433,000 tons in the corresponding period of the year 1875, and 239,000 tons in the corresponding period of 1874. In two years the imports of coal into Belgium have thus more than doubled. In the first eight months of this year coke was imported into Belgium to the extent of 19,000 tons, against 10,000 tons in the corresponding period of 1875, and 5000 tons in the corresponding period of 1874. The exports of coal from Belgium in the first eight months of this year amounted to 2,430,000 tons, as compared with 2,421,000 tons in the corresponding period of 1874. Coke was exported from Belgium in the first eight months of this year to the extent of 386,000 tons, against 453,000 tons in the corresponding period of 1875, and 333,000 tons in the corresponding period of 1874.

Coal has been selling tolerably freely in France, but prices have not advanced, although quotations have fluctuated slightly with the concessions of some and the pretensions of others. It is curious to note that the increased activity which is observed in affairs has the effect of reducing stocks, increasing extraction, and reviving hopes, but that it leaves prices stationary, or at the most firm, for certain descriptions of coal. Some advance in quotations is anticipated, but it will probably be only a slight one. In the St. Etienne basin rather a considerable amount of animation prevails. Good household qualities of coal are being delivered at Paris at 2*l.* 4s. per ton.

It appears from official returns that in the first eight months of this year 1120 tons of cast-steel were imported into Belgium; the corresponding imports in the corresponding period of 1875 were only 31 tons, and in the corresponding period of 1874 253 tons. Of the steel imported in the first eight months of this year 1108 tons came from Prussia. The imports of steel in bars, sheets, and wire into Belgium in the first eight months of this year amounted to only 2600 tons, as compared with 2800 tons in the corresponding period of 1875, and 5800 tons in the corresponding period of 1874. The imports of worked steel into Belgium in the first eight months of this year only amounted to 600 tons, as compared with 700 tons in the corresponding period of 1875, and 1100 tons in the corresponding period of 1874. The imports of minerals and limailles into Belgium in the first eight months of this year amounted to 467,000 tons, against 582,000 tons in the corresponding period of 1875, and 296,000 tons in the corresponding period of 1874. The imports of rough pig and old iron into Belgium in the first eight months of this year amounted to 133,000 tons, against 95,000 tons in the first eight months of 1875, and 99,000 tons in the first eight months of 1874, showing an increase of 33 per cent. in two years. The imports of rails, wire, plates, anchors, &c., into Belgium in the first eight months of this year amounted to 8000 tons, against 10,000 tons in the first eight months of 1875, and 19,000 tons in the first eight months of 1874. The exports of steel in bars, sheets, or wire from Belgium in the first eight months of this year amounted to 2173 tons, against 4700 tons in the corresponding period of 1875, and 2500 tons in the corresponding period of 1874. Of the exports of this year 1280 tons went to Spain. The quantity of worked steel exported from Belgium in the first eight months of this year was 850 tons, against 950 tons in the corresponding period of 1875, and 947 tons in the corresponding period of 1874. Minerals and limailles were exported from Belgium to the extent of 101,000 tons in the first eight months of this year, as compared with 99,000 tons in the first eight months of 1875, and 65,000 tons in the first eight months of 1874. The exports of rough pig and old iron from Belgium in the first eight months of this year declined to 7000 tons, against 9000 tons in the corresponding period of 1875, and 11,000 tons in the corresponding period of 1874. The exports of other articles—rails, plates, wire, &c.—from Belgium in the first eight months of this year amounted to 130,000 tons, against 141,000 tons in the corresponding period of 1875, and 169,000 tons in the corresponding period of 1874, showing a reduction of 23 per cent. in two years. The Berlin and Coblentz Railway Company is about to let a contract for 4641 tons of rails, with 600 tons of various accessories.

The French iron trade maintains the upward tendency in prices which has been noted of late, although the tone of business has perhaps been scarcely so active. Holders refuse to part with merchants' iron in the Nord below 6*l.* 16s. per ton, and business has been done above that price. In the Haut-Marne rolled coke-made iron has been selling at 7*l.* 4s. per ton, and plates for construction purposes at 9*l.* 12s. to 9*l.* 16s. per ton. It is stated that the order for

rails given out by the Paris, Lyons, and Mediterranean Railway Company has been carried from 185,000 tons to 215,000 tons. The order has been distributed as follows: — Châtillon and Commentry, 75,000 tons; Terrenoire, 40,000 tons; Creusot, 40,000 tons; Denain, 30,000 tons; and Firming, 30,000 tons. Some contracts for other *materiel* for railways have also been let, but on terms leaving little profit, and it is remarked that if the situation has improved from a productive point of view, it has not been ameliorated from a financial point of view.

Meetings of Public Companies.

GREAT LAXEY MINING COMPANY.

The annual general meeting of shareholders in this company was held at the Imperial Hotel, Douglas, Isle of Man, on Wednesday,

Mr. G. W. DUMBELL, chairman of the directors, in the chair.

There were also present—Messrs. James Spittall, Peter Watson, C. Cleator, and F. Broadbent (directors), J. Kitchin, J. J. Goldsmith, W. Gell, L. G. Howard, F. Falkner, J. Parkes, P. Killey, T. Cottier, J. Ramsbotham, G. Barber, H. Hargreaves, J. A. Brown, C. P. Ring, A. Weir, F. Reddicliffe and W. H. Rowe (managers), J. D. Rogers (secretary), &c. The accounts and the managers' report were taken as read. The reports were published in the Journal of Sept. 30.

The CHAIRMAN said: Gentlemen, I will make the formal motion that the report of the managers and the accounts be taken as read, and then it will be my duty to move that the accounts as furnished to the shareholders be received and passed, and that the report of the directors, together with an account of the proceedings at this meeting, be forwarded to each shareholder. Now, if any gentleman will second the motion, we can then proceed to discuss the question.

Mr. P. KILLEY: I beg to second the motion.

The CHAIRMAN: Then I would say that we have every reason—I was going to say to be proud, but we must not be proud of anything man can do—but I think we have reason to be deeply thankful for the continued increase in the prosperity of the Great Laxey Company. I do not think you could have anything more satisfactory than the very short statement that the directors' report contains. It has enabled us to go on declaring the same quarterly dividend of 8s, with a bonus of 2s., which is just 10s. per share, making up 2*l.* per year, or 50 per cent. on the shares in the company. And not only do we do that, but we have added 2500*l.* to the reserve fund, making 5500*l.*, in addition to the extra and unusual cost of 7000*l.* paid for the steamer. That 7000*l.* is, in fact, so much to the reserve fund. (Applause.) It is taken out of the reserve fund, and out of the reserve workings of the company; and we have then the ability in our hands to pay the dividend and to put the amount to the reserve fund without discounting, and thereby without incurring an unnecessary expense. I think that shows a state of things we can be thoroughly satisfied with. We have ample provision made for every liability. We have taken into account every responsibility that we know of connected with the company, and we are in that position to be free and clear, and to have a handsome surplus beyond the sums we have disposed of in the directors' report. Gentlemen, we have taken very considerable steps for the benefit of the mine since last half-year. The improved and increased machinery is of immense value to the company. If you are to compete with other companies, and if you are to carry on a large concern of this sort, you must avail yourselves, as far as possible, of every new machinery brought out. The increased expenses in a variety of ways connected with the mining interests of the country make it positively obligatory upon those having the management of them to see, if they have to pay more on one thing, how they can reduce the expenditure on another. We have told you here, in a few words, that we have through our own staff been enabled this last half-year to manufacture a very considerable amount of new machinery which formerly had to be brought from elsewhere. We are thus enabled to get everything at first cost. We get the material for manufacture, of course, at wholesale prices, and we manufacture it on the premises, and erect it for the benefit of the concern. Then we have besides that put up a powerful steam hammer and boiler, which are likely to be very beneficial to the company, and we have also on the way from the maker a large and powerful lathe, which will enable us to turn what we require, while we had before to send to Douglas, and sometimes to the Mersey Foundry, for doing turnings we needed. We shall now ourselves be enabled to do that entirely on the premises. Then we have taken a step which was long under consideration, and was certainly viewed with jealousy as to whether it would be a great advantage to the mine or not—because it was a very serious step to take if it was likely to be a failure—that is, of doing away with horse labour in the mine entirely. We employ nine horses for drawing stuff along the adit level to the floors, that is to the tins, as they call them, where the rough stuff is emptied out. The expense of that, and the wear and tear of horses, you may suppose is very considerable, and it is very large indeed, because they are employed night and day. Now, it is a serious question to know whether we could employ steam-power in the levels or not, and after making a vast deal of enquiry we were enabled to refer the matter to the managers. The managers very prudently took abundant time to consider before making their report, and after testing by lighting fires in the adit level, and keeping them burning for several days to ascertain if there was any inconvenience from smoke or gas collecting from these fires, they found that no inconvenience whatever arose from fumes or smoke in any shape or form, and they then thought they could report in favour of the undertaking. We required to know—we knew the cost of the engines and those things—the whole cost that would be incurred in forming and altering the level so as to take off any bends that would interfere with the work of the locomotives, and of other things necessary, such as the laying of a much heavier rail; and we then got a full and satisfactory account from the managers. They showed us what would be the outside cost for everything required, taking distinctively them by item, and that the cost, after deducting a fair price for the horses when sold, would be considerably under 1500*l.* We have said here under 1800*l.*: there is a considerable margin between their calculation and 1800*l.*, but is much better to be on the safe side. They then gave a detailed account of the present cost, and what the cost would be of working locomotives, and that shows that there would be a saving to the company of upwards of 500*l.* a year. I think you will say that the directors would not have been justified if from any feeling of timidity they said "We will not make this improvement. We are afraid of doing it, and will, therefore, go on with the same horse work we have ever gone on with instead of saving that amount." It would be just like the Isle of Man Steam Packet Company saying "We will not buy a new vessel. We do not know whether it will pay or not." I wonder where the company would be now if they had felt so timid. We should be in the same way. We have no right to be afraid of improving. If the directors are fit for the position they occupy they must look every improvement in the face, and after full consideration where an improvement is of large and material alteration they must be prepared to adopt what they believe to be right, and fully expect to succeed when risked. If you happen to meet with a failure I for one am quite ready to meet the shareholders on the subject. We were justified at all events from the information we got in adopting the improvement that we thought was for the benefit of the concern, and I have no doubt as long as we can do that the great body of the shareholders will support us. (Applause.) Gentlemen, I do not know of anything beyond the personal improvement in our machinery, and on the dressing floors particularly that is a more complete step in advance for the benefit of the company than the introduction of locomotives engines. We have referred to the purchase of the steamers I believe a more prudent step never was adopted. That was discussed and fully gone into at the last meeting, and I then explained that it was left completely to the English directors in order that there might be no sort of prejudice against its being adopted altogether. I never consented to it until the English directors came to the conclusion that it was the very best thing that could be done for the company. It has proved up to the present time a very great success. The steamer being fully insured I think we have a right to expect that there could be no great difficulty ever arising from her being lost, though I hope that will never occur. She has been built expressly for the purpose, and appears to answer completely. We are still in the position of having no fit harbour accommodation at Laxey. We have tried repeatedly, but to every entreaty I have made use of to the Woods and Forests they reply they do not see their way to expend upon it. I think we might expect that they would expend money in making a safe landing place here. We must only hope for better days. At the present time it is a great difficulty. Springs after springs, now three in succession, we have missed, owing to the very extreme weather and exposure. That is a difficulty we have partially overcome by the introduction of steam, but we must live in hopes that there will be better accommodation for us there. The directors have also named that they are satisfied that the servants connected with the company are doing their duty, and I have great satisfaction in naming a circumstance now that I think will be satisfactory to every shareholder who knows anything of the working of the company. I know myself most particularly, and the other directors know to a very great extent, that it would be impossible to carry on the works of this company without an efficient and a zealous secretary to perform the duties connected with the company. (Applause.) I know that individually a very great responsibility is cast upon me, and I could no more perform the duties that really devolve upon me than I could be fit to be King of England unless I had an efficient secretary. Taking into consideration the zealous and untiring energy of Mr. Rogers, the directors yesterday presented him with a gratuity of 100 guineas. (Applause.) A rise was last year made to him by the shareholders; but the directors, upon full consideration, find that it is not right for the shareholders to pass a resolution of that kind at all. A suit has been tried, and tried by appeal, in the case of Price's Patent Candle Company. There the directors made a gratuity to one of their employees, and the shareholders objected. Some said "You have no right to do it. It ought to go from a meeting of the shareholders." The directors said "No, we object to the shareholders doing it. The servants of the company are to be paid by the directors, and if the directors consider that a gratuity should be granted they have a right to do that, because it forms part of the wages of the servants of the company." The shareholders took proceedings against the directors in the English Courts, and they failed, and appealed to the supreme authority of the division, and their appeal was dismissed, the learned Judge declaring that it was not competent for meetings of shareholders, but it was competent alone for directors to fix the payments to be made to servants. I now refer to it particularly, because suppose I at the last meeting had said, "Oh, no, the directors object to it," it would have seemed a very unkind and unpleasant thing. I do not name anything with regard to the managers now, because the managers, I think, lately had a very satisfactory promotion. The gentleman who was the second agent has had a very handsome increase to his salary, being promoted to first captain. Wm. Henry Rowe has been placed as second agent, and thereby has had a very handsome addition to his income. It is not to be supposed that the directors would be justified in always voting an increase to the managers, or parties of that sort. Always willing to do what we can, we shall always be ready on any emergency to make a gratuity to the agents. It is a far greater pleasure than to do otherwise. I mention this as I want it to be understood that it should not be supposed that in this case we have done anything that is not right to the agents. In the case of the secretary, I do say that his indefatigable zeal and perseverance, and the way in which he does work night and day for the company would be very ill-requited if the directors had not taken notice of it. (Applause.) Gentlemen, I will not occupy your time further. It has been moved and seconded that the accounts pass, and that the report of the directors and the proceedings of the meeting be printed, and forwarded to each shareholder. If any gentleman will express his opinions upon the subject I shall be very glad. From the report of the managers, you will observe that the mine is at all events in as good a position as it was twelve months ago. That, I think, is the spirit of the report. It is very satisfactory to me that we may look forward to its being as good in the future as it has been during the past six months. (Applause.)

Mr. PETER WATSON (a director): Gentlemen, it must be very gratifying to you, as it is to the directors, to have such a balance-sheet placed before you, such a report of the managers, and such a report of the directors. Now I, with my co-English director, Mr. Broadbent, visited the mine on Tuesday, and we were exceedingly pleased, indeed, to see the many improvements that have taken place. You will remember twelve months ago I called attention to the fact that in lead mining especially there is always something required to be done. It is like furnishing a house; no sooner have you furnished it than you require ornaments, and want to keep it in proper order. So it is with lead mines—always something required to be done. And it is well that it should be so. If you were to look back to the time (say) when you were first Chairman, things then were widely different to what they are now. There were the old hand jiggers, and the old frames and dressers, all these things are now works of the past. We now come to the machinery. We come to one of the best things ever invented in connection with lead mines. I allude more particularly to the plunger jiggers. These have recently been introduced at the Van and Dyliffe mines, and during the last twelve months at Laxey. I am very much pleased to see the mode in which they are working. There is a fresh improvement that will be necessary with regard to them, and I hope the next plunger-jiggers will be similar to those at the Van Mines. One of the best things I see introduced is the steam-hammer, by which you can accomplish in five minutes what formerly occupied as many hours. That is a question of labour, and it is of vital importance. One thing we should not forget has taken place during the last twelve months. In the report of the directors the fall in the price of lead ore is alluded to. Something more serious has taken place than the fall in the price of lead, and that is the fall in the price of silver. When we have so much silver lead as we have here that must very materially alter our position financially, considering that we sell some 2600 tons of lead in the course of twelve months. Twelve months ago the price of silver was nearly 57d., and to-day it is—and it has been for some time—52d. There is 5d. difference, and that 5d. on 50 ozs. of silver—that is about our produce—makes a difference of 2·50d., or 20s. 10d. in the ton of your lead ore. Therefore, that makes a difference in your statement to-day. If silver had kept up to what it was twelve months ago, you would have had in this account a better balance sheet by something like 700*l.* or 800*l.*, which is a very serious amount. But there is reason to believe, and good reason—perhaps your Chairman could tell more about it than I can—that during the next twelve months in all probability the price of silver will advance. In all probability, America will require a great deal of silver back again, although she produces a considerable quantity. They may revert to a special payment, and therefore we may have a good demand for silver. Now, it must be gratifying, gentlemen, so far as the mine is concerned, to find such an excellent report from the managers. You will notice in the report—it is unnecessary for me to ask the managers, as I did on the last occasion—you have not only during the last twelve months sold 85,647*l.* worth of mineral, but you will find the reserves are kept up—in other words, they have discovered as much as has been taken away. That must be exceedingly satisfactory—that is to say, you are not, to use Cornish phraseology, picking out the eyes of the mine. I should like Captain Reddicliffe to say whether those are not the figures. They had stated as much here, I think. Out of 85,000*l.* worth of mineral, 31,000*l.* have gone in dividends. Twelve months ago the directors recommended 1000*l.* to be carried to the reserve fund. Now twelve months have passed, and 2500*l.* is added to the reserve fund. You have now a reserve fund of 5500*l.*, and a steamer which has cost 7000*l.* has been paid for. Now, I don't know of any lead mine on the other side of the water that can show such a satisfactory statement as this. We hear of investments in railways and foreign bonds. They are termed investments, whereas such a concern as this is called speculation. I think it ought to be reversed. If selling 85,000*l.* worth of mineral and giving the shareholders 30,000*l.* is a speculation, I don't know what is. I should call it a legitimate investment. After inquiry I made the other day of Captain W. H. Rowe, when I went over the plans and sections, I came away with Mr. Broadbent, and said to him, "As the largest shareholder, I must congratulate you, and tell you this—that Great Laxey still is in its infancy." And so I do think. I think the lucid statement your Chairman has brought before you and the statement of accounts are exceedingly satisfactory. They are to me, and I hope they are to all the shareholders. (Applause.)

The motion was then put to the meeting, and was carried unanimously.

The CHAIRMAN: There is no one against the motion. It is very satisfactory to find that we are all agreed. We are in a good position and likely to keep in it. The next business before the meeting is that of the appointment of directors. You are all aware that we are called upon at this meeting to decide upon two directors retiring, but these two directors are eligible for re election, or others may be elected in their place. By the rules of the company there must be two directors resident in England, and three in this island. It is not advisable always to decide the retirement and appointment of directors by a show of hands, but it may be done if you—the shareholders—wish. You might sometimes decide the matter by a show of hands, but at other times it might be objectionable, and not satisfactory to the shareholders at large. They might say "We will not agree to a show of hands," and then a show of hands would not be binding upon them. I do not know whether there is any feeling on the part of the shareholders, or any desire upon their part, that there should be a change of directors. We directors may be bad enough, but perhaps if you were to change you might get worse. (Laughter.) However, I shall tell you what I shall do. I shall vote out the two English directors, for the purpose simply of voting them in again. I want no change myself, but if the shareholders want one, it is open for them to make it now. I, therefore, move that the two English directors—Messrs. F. Broadbent and Peter Watson—retire, and I also propose that we determine the motion by a show of hands.

The motion was seconded by Mr. FALKNER, and carried unanimously.

The CHAIRMAN: In proposing the re-election of those two gentlemen I would just say a word or two with regard to Mr. Watson's remarks in reference to the Van Mine. We have had a report as to the machinery at that mine, and that report was to the effect that our machinery at Great Laxey was more complete than that at the Van. (Hear, hear.) We have a kind of notion that Great Laxey cannot be beaten, and we shall not let it be beaten if we can help it. (Hear, hear, and laughter.) I propose that these two English directors be re elected.—Mr. BARBER seconded the motion, which was carried unanimously.

Mr. BROADBENT: I return you, on behalf of myself and co-director (Mr. Watson), our sincere thanks for this renewed mark of your confidence. We are a happy family now, and I hope we shall long continue so. (Hear, hear, and laughter.)

The CHAIRMAN: I am always glad to have associated with me men who will act and work and give independent opinions without trying to obstruct. It is impossible for us to get on well if there are men blistering the directors, and, therefore, destroying and obstructing the work of developing the mine. (Hear, hear.) I am very thankful that things are going on as they are, for I have too much at stake and risk in the mine to induce me to do other than try to develope and prosper it by every means in my power. It is our sole wish to do our duty to you and to the great body of the shareholders, and before I conclude this remark I have to express my great and sincere thanks to the great multitude of the shareholders who are not present, who have to an unprecedented extent sent me their proxies to enable me to support the present working of the mine. I have no other means of returning my thanks to those shareholders except through the report of the proceedings which will be sent to them. Our next business is to appoint auditors, and I beg to propose that Mr. P. L. Garrett and Mr. John Goldsmith, the late auditors, be re-elected to the office for the current year.

Mr. P. KILLEY seconded the motion, which was carried unanimously.

The CHAIRMAN: I have now the pleasing duty of proposing what I think is the best proposal of the meeting. It is that the best thanks of the shareholders be given to our managers, auditors, and secretary for their very efficient way of discharging the several duties committed to them. (Hear, hear.) I am quite certain, so far as my knowledge of men goes, that your managers are doing all in their power to promote the benefit of the company. (Hear, hear.) I will name one circumstance in support of that statement. I have long had an idea that we might find a considerable amount of ore, more particularly of blende, in what are called the "old workings" of the mine. I felt quite convinced from what I know of this company, from my 40 years' connection with it, that in the old workings, if they were worked clean, there would be found a vast deal of ore, especially blende, which, perhaps, was not considered worth taking out when that ore was selling at mere nominal prices. With this idea in my mind I called upon the agents to turn their attention to this matter. Some time elapsed without my receiving a report on the subject. Without interfering with Capt. Reddicliffe in the general working of the mine, I called upon Capt. W. H. Rowe, the second captain, and Mr. Killip, the underground overseer, to clear out the old workings and to thoroughly test whether it would pay to work them, and at the same time it was understood that Capt. W. H. Rowe was to report to me as soon as he was in a position to do so. After taking a considerable time I received a report. Parties of men had been put to clear out the workings, and a quantity of lead and blende was taken out. The return I received from Capt. W. H. Rowe was a very satisfactory one. He had taken full time to ascertain the result, and after making the most careful examination, and after ascertaining the exact returns of ore, and the expense of dressing it, he told me that they were then making a profit of 400*l.* a month upon the old workings. (Cheers.) I think you will agree with me—any of you who have a liking for making money and receiving it—that this is no trifling thing in addition to the ordinary working of the mine, and I felt uncommonly gratified that this project had been so successful, because I had set my heart upon it from what I knew of the workings of old ground in England, and I was firmly convinced that in our mine there was a large extent of old ground which if cleared out might pay for working; and I am now in hopes that our agents will be able to put on a considerably increased force, and that on the 400*l.* a month profit on these old workings we may have a considerable increase. But, of course, this cannot last forever. These old workings are not like new ground that has been unexplored, it is simply working on ground already worked, but we may go on for years largely and profitably increasing the returns of the mine. (Hear, hear.) My motion is that the best thanks of the shareholders be given to the captains of the mine, to the auditors, and to the secretary, and I would include in my motion the underground overseer and not forgetting the captain of the dressing-floors, for the great energy and steady judgment he has displayed in dressing the ores committed to his charge; I, therefore, would not like to omit him when mentioning the others.

Mr. BARBER: I have very great pleasure in seconding the motion, and I must say that I thoroughly agree with everything you have said with regard to everyone of the officers.

The CHAIRMAN: I am very glad to hear this from a gentleman who takes a great deal of interest in the mine, and who makes himself thoroughly acquainted with what is going on.

The notice was carried unanimously.

Capt. REDDICLIFFE: It must be gratifying to all the officers of the company, as it is to me, to have the confidence of our directors and shareholders. In returning you my sincere thanks for the vote which has just been passed, I would take this opportunity of answering Mr. Watson's question. I do not know that I fully understand his question, but I think I gathered sufficient of his meaning to be able to give him an answer. We have already stated in our report what are the reserves of the mine, and we like to be believed. I can scarcely believe that Mr. Watson questions our statement —— Mr. WATSON: Certainly not.

Capt. REDDICLIFFE: But you only ask us to confirm the statement, and you put the question to us so that that statement may go forth in another form.

Mr. WATSON: That is my reason for putting the question.

Capt. REDDICLIFFE: Then I may state it as a fact that our reserves are more than they were six months ago. (Hear, hear.) I am very much obliged to you for this vote of confidence in us.

Mr. ROGERS: I have to tender you my sincere thanks for the very high opinion which you are still pleased to entertain of me and my services for Great Laxey, and I have also to thank you for the handsome gift which has been made to me yesterday. I thanked you privately for that gift, and I now have simply to publicly confirm those thanks. I assure you that it shall always be my endeavour to work with the other agents for the benefit of the concern generally. I know that some of the large shareholders in the room approve of, and endorse, what the directors did yesterday with regard to myself. I may say that I work with great pleasure with the other officers of the company. Should any of them propose anything that will benefit the mine it is taken up by all of us as by one man, and we do not care who gets the credit of it so long as the company gets the benefit of it. That is our system at present, and it will continue to be our system so long as we are connected with Great Laxey. (Applause.)

Mr. KITCHIN: I have great pleasure in proposing a vote of thanks to our Chairman and his co-directors for his and their services during the last six months. The balance-sheet and the directors' report are most satisfactory, and would contrast most favourably with those of any company, as would the pleasurable meeting we have had to-day contrast favourably with other meetings in connection with this company which we have heard of and read of. Nothing could be more gratifying to our worthy Chairman than the meeting which we have had to-day; and I have much satisfaction in moving that the best thanks of the shareholders be given to our worthy Chairman and his co directors. It must be most gratifying to all the shareholders—at all events, if not to all, to the great majority—to hear the statement which has been made by our worthy Chairman to-day, as it must be eminently satisfactory to our worthy Chairman, who has been at the head of this company for so many years, to preside over such a pleasant meeting as we have had to-day. I hope he will long be spared to present to the shareholders of Great Laxey so favourable and satisfactory a balance-sheet as we have had to-day. (Applause.)

Mr. HARGREAVES seconded the motion, which was carried unanimously.

The CHAIRMAN: I can only say, on behalf of myself and my co directors, that I hope that we shall continue to work not only with the satisfaction that we have hitherto done for the company, but that we shall, if possible, increase the satisfaction of the shareholders. I thoroughly agree with the expression that has fallen from Mr. Kitchin, and our meeting to-day contrasts most pleasantly with some that we have had. For a very long time—for some years, at all events—we were all as peaceable and comfortable as any one could possibly wish. Nothing could be better, and everything went on prosperously and satisfactorily, until, unfortunately, some bad blood crept into the company; and without intending or wishing to refer to any individual, I may say that a sort of clique was got up amongst the company who diligently and persistently sowed dissension amongst the shareholders. I was, of course, the particular object to be fired at—generally the man who works the most and the hardest will be the one most shot at. Perhaps there are many men as old as I am who would have said, "I will not be bothered with your company any longer. Take your company, and do as you like with it!" But I am of a different disposition. I am tenacious, and like to fight the matter to the end; and I did so, although it was not satisfactory to have persons going round the country—throughout the counties, as it were—trying if possible to mob the directors. In London, as well as here, very stormy meetings were held; but still, the "old bricks" (laughter) carried on the mine in spite of all. Ultimately, we were placed in this position—that a strike took place at the mine. But we were not the only company placed in that unhappy position; An attempt was also made to bully us into making a concession which, if we had granted it, would, without doubt, have had the effect of preventing the shareholders of Great Laxey getting a dividend for the next five years, at all events. We carried on the struggle to the end, and I am glad to say that in it we were supported by the great majority of the shareholders. Ultimately, after we had determinately suppressed an attempt at riot, the men saw the folly of their course, and they returned to their work at the mine on our terms, and we were enabled to bring peace to the mine. The men now work well, and are well paid. True, there are men who occasionally get a large return, and some a small return, for their labour; but those who got a small return this month may get a large return next month. They may be more fortunate in their bargains. I can say it fearlessly, that there is no company in which the men are better paid than they are in Great Laxey. They are not better paid in any mine in the country, taking the average earnings of the men. (Mr. Watson: Hear, hear.) The man who works hardest gets the most pay; and if a man should be so lucky as to get into what in mining phraseology is termed a "lough," why he has the work almost done to his hand, and he gets paid for the ground just as if he took the whole of it out with his pick. And it pays the company to do this, because when you break into these things you break into riches. I did complain some years ago of the extravagant wages the men were getting, because it was without rhyme or reason; but that is now a thing of the past, and it as now as fairly done as it could be. No man can see fathoms deep into the ground, and it is only by what we can see that we can judge what should be paid for working a piece of ground. I feel strong in the fact that we have the support of the shareholders generally, and that we do not now come to these meetings to be bullied and abused, and to be told that we should turn away our managers. We are satisfied with them that they do their duty. If they do not do their duty we do not need to be told so by the shareholders. The directors can see that for themselves. When the managers do their duty they are entitled to our support as men of intelligence, and ability, and education. I return you my hearty thanks for the vote you have passed. As long as I am spared I shall endeavour to do my duty to this company, and I hope I shall be spared to meet you here for many years to come. (Applause.)

The proceedings then terminated.

WEST BASSET MINING COMPANY.

A three-monthly meeting of adventurers was held on Thursday at the mine, Capt. JAMES EVANS, the purser, presiding. The accounts showed a balance against the adventurers of 1312*l.* 7s. 3d., the loss on the three months being 559*l.* 8s. 5d.

The CHAIRMAN stated that until recently they had been paying 1-30th dues to Mr. Basset and Sir Richard Vyvyan, and 1-24th to Mr. Fortescue, but from Oct. 1 Mr. Fortescue had consented to take 1-30th dues during pleasure. (Hear, hear.) He regretted that he had again to come before the adventurers with an unfavourable balance-sheet, but there was little hope of their doing much better while tin remained at its present low price. He did not believe, however, that the present state of affairs could last much longer, for the market could not be supplied with tin at such a figure. It was very hard indeed to have to raise 160 tons of tin at a loss of nearly 60*l.*

Mr. WOOLCOCK expressed a similar opinion. He pointed out that some time ago when tin was down to 60*l.* per ton everyone was crying out against the wretchedly low price that was then being paid, and would not sell the tin at such a price, but now they were obliged to sell at nearly 20*l.* per ton less.

The PURSER, in answer to Mr. HITCHINGS, said it was quite within the power of the adventurers to make a call if they thought necessary, although no power had been taken to do so in the notice calling the meeting. That, however, made no difference, because West Basset Mine was worked under its own rules, and not by the Stannaries Acts. But he did not consider it necessary to make a call at present; he hoped that there would soon be such an improvement in the market as would enable them to wipe off the deficit without any difficulty. Their new stamps were now working on the tinstuff; they were very powerful, and without them they really could not go on working the mine.

Mr. WOOLCOCK asked what the old stamps were capable of doing?——The PURSER replied that they would turn out about 40 tons a month, and that the two together would enable them to stamp somewhere about 70 tons a month.

Mr. WOOLCOCK: What is the average of the tinstone in this mine?——The PURSER: What we have been raising for the last six months might be called 2 per cent.—sometimes a little more—or equal to about 44 lbs. of tin to the ton. It ought not to be so high, but in consequence of the low price of tin we are leaving a large part of our lode standing, which we shall have to take away some day. The price of tin ought to be high enough to enable us to work West Basset with 36 lbs. of tin to the ton.

Mr. WOOLCOCK: Are you working many stopes?——The PURSER: Yes; we are working a very large number. We never had so many men on the mine as we have at this moment, and I have told Capt. Nicholas to keep the mine full of men, and to raise all the stuff he can.

Capt. A. JAMES: Have you any hope that we shall soon have a better price for tin?——The PURSER: Yes; a strong hope. I was talking to a smelter yesterday, and he told me that now was the time to stock tin, instead of two years ago. I gather hope from that.

The accounts were then passed, the balance being carried forward to the debit of the next account.

GLENROY LEAD MINING COMPANY.

An extraordinary general meeting of shareholders was held at the company's offices, Austinfriars, on Tuesday,

Mr. S. W. DAUKES in the chair.

The notice convening the meeting (which embodied the resolution passed at the recent meeting) having been read,

The CHAIRMAN said that as they were all well acquainted with the nature and objects of the resolution contained in the notice, he need only say that they had requested Mr. Kerly, their solicitor, to put the resolution in the full legal form, in order that there could be no subsequent question with regard to them.

Mr. KERLY explained that to give effect to the project for which the meeting had been called it would be necessary to make two distinct resolutions, the first of which would be—that the capital of the company be increased from 8000*l.* to 58,000*l.*, by the issue of 12,000 new shares of 4*l.* each. Assuming this to be passed, the other resolution would be—that 9000 of such shares be issued as fully paid up, and to be given *pro rata* as bonus to the allottees of the other 3000 new shares, and that the directors be authorised to make such calls and at such times as they may consider necessary in respect of such new shares, and generally to do what they may deem necessary to give full effect to the special resolutions now passed, provided that no one call on such new shares shall exceed 10s. per share.

The first resolution was put to the meeting, and carried unanimously.

Mr. PYNE, in seconding the second resolution, enquired what the old shareholders would get provided they did not take up their proportion of the new shares, as there might be some who were not prepared to do so?

Mr. J. Y. WATSON said that they would, of course, lose the benefit; but it must be recollected that an increase of the capital when necessary by some such method as that now adopted was contemplated when the company was originally formed, and he might say that many took the original shares in consideration of the additional advantage to be derived when the new capital should be required.

Mr. KERLY remarked that no disadvantage need be suffered by any shareholder, since anyone desiring to do so could sell a certain number of his old shares, and

thus secure the amount necessary to enable him to take up the new shares to entitle him to the bonus shares. The resolution was then unanimously adopted.

The CHAIRMAN said that now the formal resolutions had been passed, they might like to hear the report from the captain which they had received that morning, and which was a very satisfactory one.

Sept. 27.—Since my report of Sept. 25 a good deal of time has been taken up in clearing the 40 and 50 of stuff. The cross-cut in the 50 is now driven between 9 and 10 ft., and in main or low dip charged with lead, blende, and copper. We may have 3 or 4 fms. to drive before reaching the lode in the winze sinking below the 40. The lode is looking well for blende, and improving for lead. The stopes in the roof of the 40 are also improving for lead and blende, and good leadstuff will be coming to surface from these places next week. After next week we shall commence cross-cuts to the east and west at the bottom, or 65. We are now fairly under weigh dressing, and expect to be able to make an early and satisfactory sale of ore.—R. ROWE.

Mr. W. SMITH presumed that as the present resolutions would provide them with ample funds, all future profits would be divisible among the shareholders as dividend.—The CHAIRMAN said that would be so; they would have an excellent plant, and beyond the actual cost of getting the ore, little else than the requisite exploratory work for opening the mine to compensate for ore taken away for sale would be chargeable to revenue account.

Mr. WATSON said that the exploratory work—cross-cuts and such like—would, of course, be charged in the usual cost-sheets, and be included in estimating the average cost of raising the ore.

The usual complimentary vote of thanks to the Chairman was then passed, and the proceedings terminated.

LINARES LEAD MINING COMPANY.

The half-yearly general meeting of shareholders was held at the company's offices, Queen-street-place, on Thursday,

Mr. WM. COX in the chair.

Mr. H. SWAFFIELD (the secretary) read the notice convening the meeting, which was thereupon declared duly constituted; the report and accounts, which have already been published, were taken as read.

The CHAIRMAN moved the adoption of the report and accounts, and said there were not many remarks to be made upon them, inasmuch as the report unfolded very much the position in which the mine now stood, at all events he could congratulate the shareholders that they had at length got the mine again into something like what it was in former days, and into something like its old form. It was some time since they had the pleasure of paying the same dividend as the last two years—19s. upon the 3*l.* shares, which he thought they would consider a satisfactory return for the money invested. He should have liked to have seen it 1*l.* (a laugh), but nevertheless 19s. was a good dividend (hear, hear), and he might call attention to the fact that the amount carried forward, if distributed, would have been sufficient almost to pay 1*l.* per share. The shareholders would remember that at the last meeting it was resolved to apply some of the money at the credit of the reserve fund to the further prosecution of the original Pozo Ancho Mine, which formerly gave great riches, but which failed, in consequence of which the upper levels were worked for the purpose of continuing dividends. The works had been going on, and from a letter received that morning they were down to the 95, where the expense for timber would not be so heavy. The charge for this work did not appear in the present accounts, as the works were scarcely commenced till after the date that the accounts were made up to. In addition to the payment of the dividend which he had referred to, they had been able to carry 500*l.* to the reserve fund, so that if the payment of the work was spread over a space of time, and the mine continued as at present paying good dividends, he hoped the work would eventually be paid for out of the revenue, and they would not have to diminish the reserve, which now stood invested in Consols. A shareholder had asked for an explanation of the item of "542*l.* in part payment of the house at Cordova." It was a house in which Mr. Shaw, the manager, had been living, and it was put up for sale, and as Mr. Shaw could not obtain another residence, and as there was a chance of its being sold over his head, the directors had decided to buy it. It was a splendid house, in the best position in the town, and the company had bought it for the cheap price of 1020*l.* 19s. 1d., and he could only say that, knowing the house himself, if the company felt disposed to sell it he would give them 1200*l.* for it. He might mention that the house was returning 85*l.* a-year rent to the shareholders, which he thought would be considered a good return.

A SHAREHOLDER seconded the adoption of the report and accounts.

Mr. JOHN TAYLOR said he fully approved the action which the board had taken with regard to the purchase of the house, and said that it might allay the doubts of some shareholders if he stated that the property of Englishmen in Spain, both house and mining property, was just as safe as in this country. He was happy to corroborate the statement of the Chairman that the mine was in a most satisfactory position. He believed the outlay now being made on the old mine was money judiciously spent, and he had hopes that they would be able to get a large quantity of ore from it. The aspect of the lead market was fluctuating; it had been down to 19*l.* 10s., and was now about 21*l.*, and as far as he could judge the prospects were that the price would go higher rather than lower. The company had had no difficulty with the workpeople.

The resolution for the adoption of the report and accounts was then put and carried.

A vote of thanks was then passed to the Chairman and directors on the motion of Mr. Crosby, and the meeting broke up.

THE ALAMILLOS COMPANY.

The general meeting of shareholders was held at the company's offices, Queen-street-place, on Thursday,—Mr. W. Cox in the chair.

Mr. H. SWAFFILLD (the secretary) read the notice convening the meeting, which was then declared duly constituted.

The CHAIRMAN, in moving the reception and adoption of the report and accounts, expressed regret that, owing to the indisposition of their chairman—Mr. Judd—he was occupying the chair. They would remember that at the last meeting the shareholders determined that certain exploratory work, estimated to amount to about 1000*l.*, should be undertaken, and paid for out of the reserve fund. During the six months they had expended 510*l.* 17s. 2d. on that account, which was, of course, kept separate from their general accounts, so that their reserve fund would have been reduced by that amount, but their general operations had enabled them to carry 500*l.* to the reserve fund, so that they had really only expended 10*l.* on the exploratory workings in the half-year. The dividend which they had been enabled to declare was to him very disappointing. They had been paying 2s. per share per six months for some years, but at the last meeting they increased it to 2s. 6d. per share for the preceding six months, but on the present occasion they were only able to pay 1s. 6d., yet, although this might look like a falling off, it really gave them the same amount as usual for the year. The good prospects of six months since had not been realised, the apparent riches which they then had having disappeared almost as quickly as they had been discovered, but they had an enormous property, and he had full confidence that it would remunerate them. They would recollect that they lost the lead at the 35 fm. level in the Magdalena shaft, which was working when he visited the property shortly after the formation of the company, but they knew there must be more in a district so rich; they had plenty of money to go on developing the property as heretofore, and they must recollect that even in their present position they were receiving 16 per cent. as dividends, but he thought mines in prosperity ought to pay 20 per cent., and if shareholders then put by the balance beyond 5 or 6 per cent—the highest interest they could realise in other investments—they would find that in a few years they were reimbursed the whole of their outlay, and hold the stock which yielded them their interest for practically nothing. He did not see anything in view at present to lead them to hope that they would shortly double their profits, but had such confidence in the property and in the district that he believed the time was not very far distant when they would be able to do so. He concluded by moving that the report and accounts be received and adopted.

Mr. J. TAYLOR was always glad to have a sanguine partner to work with, and in mining it was absolutely necessary to be sanguine, or no mines would be worked. They had seen the Alamillos levels poor before, and would, no doubt, see them so again, but upon the whole he was as sanguine as Mr. Cox with regard to the property. He considered Alamillos as valuable as any in the Linares district. The levels had been poor for the last six months no doubt, but the reason was not difficult to understand. He had prepared a rough diagram by way of explanation. They would see that through the Alamillos vein there runs a slide which dislocates the country rock, and the ore is poor in its vicinity, but this was frequently the case with similar slides, and they hoped and had no doubt that the vein would be found as good below as it was above. If they found it so they would have a very rich property. Their principle had been throughout to carry on a large amount of exploratory work, and that had been the saving of them when they had had periods of poor ore, but they did not owe a shilling, and all they wanted was a good discovery. He had full confidence in the mine, and their resident agent holds largely himself, which he certainly would not do unless he had confidence in the mine. They would shortly have a railroad running right into the mine, which would reduce their cost of fuel, and he might mention that an opportunity had occurred, such as they did not often have, to purchase some hundreds of tons of first-class ore, and they had availed themselves of it believing that they would be enabled to make a fair profit upon the smelting. It was not a very large transaction, but they hoped it would be a satisfactory one.

A SHAREHOLDER enquired whether that purchase involved any large amount of risk to the company.

Mr. TAYLOR did not consider there was any great risk, as they, of course, bought by assay, and knew precisely what they were buying.

The report and accounts were then unanimously adopted, and thanks having been voted to the Chairman and directors, and duly acknowledged, the proceedings terminated.

THE FORTUNA COMPANY.

The half-yearly general meeting of shareholders was held at the company's offices, Queen-street-place, on Thursday,

Mr. R. HENTY in the chair.

Mr. H. SWAFFIELD (the secretary) read the notice convening the meeting, which the Chairman then declared duly constituted, and the report and accounts were taken as read.

The CHAIRMAN said that in moving the reception and adoption of the report and accounts he had but few remarks to make, as the report, which was in the shareholders possession, gave a good account of their stewardship. The little he had to say was very satisfactory, for although they had obtained a somewhat lower price for lead, their profit had been good, having amounted to 33 per cent. upon the entire capital of the company, which must be satisfactory to everyone, and whatever people might say about the instability of mining, it was certain that they were now enjoying a prosperity which many of their neighbours could not boast of. They had 6137*l.* invested as a reserve, and 500*l.* more would be added in a few days. This was equal to one-eighth of the capital of the company. There had been an increase in the reserves in one mine of 800 tons, and a decrease in another of 500 tons, so that they had a net increase of 300 tons in their reserve. Their expenditure had been reduced by over 500*l.*, and one important feature which he might mention was that they were now getting good north country coal delivered at Seville at 20s. 6d. per ton, which was much less than they could obtain it in London. As to their smelting operations, they had had some advantage in that, arising partly from the cheaper coal, and partly from improvements in the smelting. In both their new furnaces they were getting some additional advantage. He rejoiced in their prospects, and congratulated them that they were at present enjoining their prosperity in the shape of a dividend at the rate of 33 per cent.

The report and accounts were then put to the meeting and carried unanimously.

The CHAIRMAN might remark that this company intended to adopt the purchase and smelting of ores as the other companies proposed to do. They did not see any reason why they should not participate in the profits realisable. The ores were all purchased by assay, so that, except in the case of any great and unexpected fall in the price of lead, the business was almost a certainty.

Thanks were unanimously voted to the chairman and directors, in acknowledging which the CHAIRMAN remarked that such expressions of satisfaction were at all times most pleasing to them, and it was particularly pleasant to a board of directors to have no excuses to make, either for bad luck or for bad management.

The meeting then separated.

WELSH FREEHOLD COAL AND IRON COMPANY (IN LIQUIDATION).

A meeting of shareholders was held, on Thursday, at the Guildhall Tavern,—Mr. J. S. STALLARD (the liquidator) in the chair.

The CHAIRMAN said he would preface his few remarks by observing that the meeting had been called in compliance with the Act of Parliament, and under the advice of Mr. Smith. Being under the supervision of the Court of Chancery it was necessary that the official liquidator should give an account of himself every twelve months, and he was glad that such a necessity existed, for it relieved him of an immense amount of correspondence caused by enquiring shareholders. On the last occasion of the shareholders meeting together a short scheme was submitted to the shareholders to enable them to keep the property in their own hands. He had then told the shareholders that the first mortgagees had given notice of sale, and that they were at once prepared to proceed to sale, and further that unless the interest were at once paid they would certainly do so. He was very pleased to be able to say that Mr. Stretton was kind enough to consult him before anything definite was done in the matter. Mr. Stretton repeatedly threatened to advertise the property, and, in fact, he did advertise it. Seeing that re-construction on the part of the shareholders was out of the question, he (Mr. Stallard) had nothing for it but to set about to obtain a purchaser for the property. The shareholders would be quite aware that to find a purchaser for a colliery property at the present time would be a very difficult thing, but he was accidently thrown into communication with the proprietor of the adjoining property, who after a good deal of negociation offered as an ultimatum a price which he (the Chairman) was very reluctant to accept, but as the morgagee would not consent to join in the sale unless it was done at once Mr. Whitworth ultimately became the purchaser for 20,000*l.* It should be borne in mind that the mortgagee had the power to sell the property himself any day. Of course it was necessary to obtain the sanction of the sale, and the Court was very reluctant to sanction the sale at the price offered. However, Mr. Stretton positively declined to let the matter stand over, and the chief clerk to the Vice-Chancellor ultimately sanctioned the sale.

A SHAREHOLDER enquired whether the sum of 20,000*l.* was for the whole of the property of the company?

The CHAIRMAN replied in the affirmative. It was at first intended that there should be an extra sum for the engines at Swansea, and there was a great deal of confusion on the point, and as at that time Mr. Whitworth, not having entered into any contract, threatened to withdraw his offer of 20,000*l.*, it was not thought advisable to squabble about the extra 50*l.* proposed to be paid for the engines, and, therefore, the contract which had been entered into included the whole of the property at the colliery and engines at Swansea; and with respect to the railway, there was a clause in the contract to the effect that if the company was not in a position to deliver the rails, sleepers, &c., on the leased part of the railway—the Tonmore part—the company would have to pay 100*l.* Mr. Lewis, the landlord, was in a position to distrain for four years rent, not a single sixpense for rent having been paid him. After a great deal of trouble a compromise was made, and Mr. Whitworth paid the 1000*l.*, and Mr. Lewis cancelled his agreement, upon which the company was liable for a sum the amount of which was approved by the Court. He regretted to have to state that the claims sent in far exceeded the estimated amount, although at present some of the claims were under consideration. There was one very serious dispute with a gentleman who claims to be paid in full as an execution creditor. The question had not yet been settled, and probably never would to the claimant's satisfaction.

A SHAREHOLDER: Mr. Snook I presume?

The CHAIRMAN: No, it is the Diamond Rock Boring Company. They had an execution, but were a little tardy over it, and Mr. Bain managed to send down a day before them and took possession. He had been advised that the remedy of the Diamond Rock Boring Company was against Mr. Bain, and not against the company, but this being merely a question of priority of payment amongst the creditors would not influence any dividend to the shareholders.

Mr WEBB: Is there the remotest possible chance of the shareholders receiving a sixpence out of the property?

The CHAIRMAN: I am sorry to say I do not think there will be very much. The Scottish Wagon Company's claim was a large one, and had not been settled at all. He had just learned from the company that there were 39 of their wagons—which were to have been purchased on the seven years system—still on the property. Complicated matters of this sort were constantly springing up, but he did not believe the assets would pay the creditors in full, and, therefore, the shareholders would in all probability get nothing from the general estate. The question of guaranteed dividends had caused an immense amount of correspondence, caused by people making enquiries as to why it had not been paid. At this time last year the question of guaranteed dividends was considered. It was claimed on behalf of creditors, and it was argued in Court, that they would be the property of the creditors, and as the vendor would be liable for the 7 per cent. guaranteed he considers himself entitled to it. The trustees had a difficult part to play, and two counsels' opinions were taken, and as the opinions differed it was finally settled that the money should be paid into Court, and notice would be given from the Court as to the payment. Several creditors had given notice of their intention of being represented when the case is argued before the Vice Chancellor, and as some eminent council had been engaged by the Scottish Wagon Company among other large creditors, he (the Chairman) strongly advised the shareholders to form a committee amongst themselves to have their case properly argued. At the previous meeting the shareholders were good enough to appoint a committee to confer with the liquidator to see if anything could be done in the matter, but no conference had ever taken place, and, in fact, Mr. Bergtheil was the only gentleman of the committee appointed who had ever conferred with him on the subject. The property was sold under great pressure, and he could produce evidence to show that it was not possible to obtain a larger sum than the 20,000*l.* mentioned. He had received about 130*l.* for rent, but he was at present considerably out of pocket by the liquidation, and would be so until his costs were allowed by the Court. Mr. Stretton, the first mortgagee, had been paid 8834*l.*, subject to what he (the Chairman) hoped would be a serious reduction, and Mr. Bain had been paid 6000*l.*, leaving a balance between that sum and 8000*l.* claimed by Mr. Bain, to be settled in Court. There were many questions which would have to be settled, and, therefore, he urged the shareholders to form a committee to see to their interests. There could be no doubt that the property had been purchased at a great deal too high a price.

A SHAREHOLDER: How much did it cost?—The CHAIRMAN: 19,000*l.* in cash, 43,000*l.* in shares, and the difference between those amounts and 71,000*l.* was to be set aside as an indemnity for the guaranteed dividend.

Mr. WEBB strongly deprecated the purchase of the property—for which he said between 8000*l.* and 10,000*l.* had originally been given by Mr. Stewart—for such an excessive sum as 71,000*l.*, the sum of 105,000*l.* having at first been asked. Of course the shareholders would get nothing out of the company which had been conceived and nursed by its promoters, and was now being buried by him without an inquest.

In the course of a desultory conversation the CHAIRMAN stated in reply to Mr. Blanham that 4165*l.* 1s. 2d. had actually been paid into Court, and there was still 225*l.* to be paid on the 29th inst., and there was a small amount—6*l.*—just received. Up to the present time the claims against the company were between 9000*l.* and 10,000*l.* The directors had paid for their shares according to the books of the company. There was one gentleman—Capt. Halkett—who had been put down as a director who declined to pay, and upon examination he stated that he had never applied for shares, but merely attended a board meeting to ascertain the stability of the company. Having signed his name in the attendance book of directors Capt. Halkett might still be made liable, but this could not be said at present.

In reply to a question as to whether the directors had presented any claim for their services, the CHAIRMAN stated that they had referred the matter to the decision of the Court of Chancery, and he believed Mr. Stewart intended to claim for the balance of the dividend indemnity.

PRINCE OF WALES MINING COMPANY.

A special meeting of shareholders was held yesterday at the offices of the company, St. Michael's House, St. Michael's Alley,

Mr. J. Y. WATSON in the chair.

Mr. C. B. PARRY read the notice convening the meeting, which stated that it was called for the purpose of passing a resolution forfeiting the shares upon which the arrears due for calls shall not have been paid prior to the meeting. Notices of forfeiture of which have been served upon the shareholders in arrear, in pursuance of the resolution passed at the general meeting of shareholders in the mine held on the 29th instant.

Mr. PARRY having also read the notice of forfeiture issued to the shareholders, read the following report from the agents:—

Oct. 12.—In presenting you our report for the meeting appointed to be held to-morrow (Friday) we beg to state that the cross-cut has been driven north at the 77 fm. level 4 fm. 2 ft., but we are sorry to say we have not yet cut the lode, and as the ground is getting harder and more spare for driving we have suspended operations at this point, and have put the men to sink the winze below the 55, where the lode is from 3½ to 4 ft. wide, and worth 20*l.* per fathom; this winze is now down 2 fms. below the level, and is perfectly dry, which is an evident proof that the water is drained from the 77, but to prevent further outlay in searching for the lode at that level we thought it advisable to suspend operations, and wait to see the lode traced down from the 55 to the 77 by the winze now in course of sinking. The lode in the 55 west is worth 8*l.* per fathom. The lode in the 45 west is 3 ft. wide, yielding a little copper ore, but not sufficient to value.—J. ANDREWS, JOHN PRYOR.

The CHAIRMAN read the list of shareholders in arrears of call, the aggregate holding of shares represented being 4066. Of this number, 3902 shares were held by one gentleman; and the Chairman stated his belief that about 700 of the shares would certainly be paid upon before the 20th inst., when it was proposed to decide as to the restoration.

Mr. KERLEY moved, "That the shares held by the following parties (list read), upon which the arrears of calls have not been paid in accordance with the notice, be and they are hereby absolutely forfeited to the company."—Mr. HODGSON seconded the motion, which was carried.

Mr. KERLEY then moved, "That the said shares be restored to the respective parties, provided all calls made on such shares be paid on or before Oct. 26." This motion was also carried without discussion.

The CHAIRMAN pointed out that the forfeiture of shares does not release the defaulting shareholders from their liability on the present indebtedness of the mine.—The meeting then terminated.

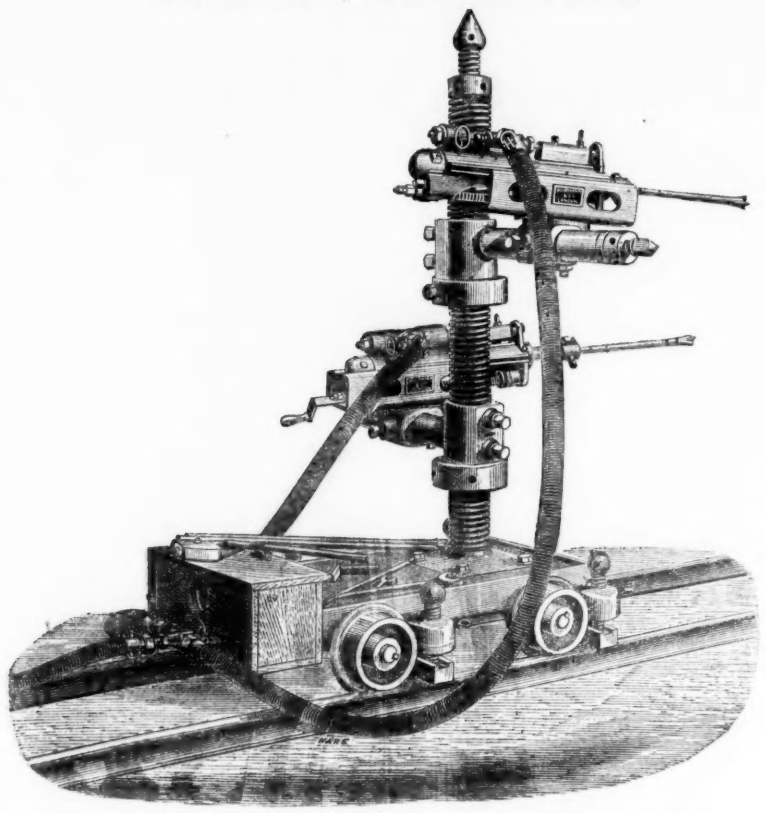
[For remainder of Meetings see to-day's Journal.]

THE WILD DUCK, OR SPORTSMAN'S ARMS.

"Some time ago, at one of our mittens," says Uncle Henry Treylon, "our Tommy axed what was become of all the Gwennap lodes going west, and I think, comrades, now we have had a good dinner, and all settled pure and comfortable like, for a little discoose, I may ax what is become of all the Camborne lodes going west?" "A very important question," says Cousin Will. "I tell ee," says Jemmy Down, "tes easier said than done, for who can tell where the lodes be gone going west?" "Very true," says Uncle Henry, "but I don't see why we shouldn't discoose the point a bit while we are here." "That's right," says Jan Temby, "throw to un, Uncle Henry." "Well then, where is North Pool, the Croftys, Setons, North and South Roskears, Wheal Harriet, Condurrow, South Condurrow, Bassets, West Frances, Grenvilles, Polgive, Bolenowe, Chycarne Moor, Highdowns lodes, &c.? Where are all the great channel of lodes to be found going west? There is no moorstone in that run that I know to squeeze their lives out, and why shan't this great run of lodes be so good in Gwinear as in Camborne? Now, suppose we begin at Red River, and cross Trejothan Downs to Wheal Rome, then follow the valley from Roseworthy south to Breppar; but in all that ground, that must take in scores of champions lodes, there was only two or three small trials made at Wheal Camborne, on Tregothan Downs, Wheal Rome, and Wheal Dobna—Capt. Joe Odger's bal, near Breppar. There is hard channels of ironstone between Polstrong and Breppar, but no growan or moorstone. Then, again, lev us trace up the valley south from Breppar to Ramsgate, Vellansaundry, and Pateeta, leaving Algarrick and Trevoole to the right, going across Halligan and Gernick to Black rock, on the borders of Crowan. Now, here is ground enuff, and good ground too, for generations to come." "You never spoke a truer word than that, Uncle Henry," says Jan Jewill, "and now I think upon it there wor some years ago a public house at Pateeta, kept by Harper and Mary Hocken; a great fight took place there, and Harper wor threaten'd to have his lishance took away, and had to go before the Justices in Helston. When Harper's name was cauled in a march'd, and said so hard as a could speak—'Here comes I, Harper and Mary Hocken, who kept public-house in the Barton of Pateeta for seven and seven, fourteen and fourteen, twenty and twenty years, without balement, or squalement, mis-fraud, or dis-menner, so please give me back my lishance.' When the Justices recovered their breath after Harper's speech, the Chairman whispered to the Clerk, and said—'Mr. Hocken must be a great and larned man, for since all the years he'd ben on the bench he never heerd such a speech as that before. There is no charge against him.' The old people say that Harper and Mary lived to a great age and wor wealthy people, and that Helston Justices never forgot Harper's speech." "Well done, Jan," says Jemmy Down, "thee's got the hat." "I want to know," says Jan Temby, "in all the ground Uncle Henny ben telling about ess any good gossan backs of lodes discovered, for I'd venture my shirt on a right gossan." "I tell ee, sose, tesn't every man that knows a true gossan," says Jemmy Down, "and I don't think that Jan Temby can tell if the gossan make the ore or the ore make the gossan. Now, can ee, old Jan?" "Why," says Jan, scratching his head, "any fool can ax a question, but 'twill take a brave steff fellow to answer'n, and I do think if the gossan made the ore the ore would be on the top, for I look upon the gossan as the blossom of the ore, and any fool can tell that the blossom on the top of the tree is thrown up and nourished by the roots in the earth, and more blossom more fruit, and more gossan more ore. The gossan never dropped from the clouds, but is thrown up and nourished by the roots (the ore) in the earth. Now, this is my opinion, comrades, and who can say it tesn't so? It would take hours to show the difference between a good gossan and a bad gossan, but from long experience I can tell the true one the minnit I clap my eyes upon un. One will bring forth only crab apples, and the other abundance of golden fruit." "Well," says Dowa, "whether thee'rt right or wrong, Jan, I'll knack under, and own I'm beat, fairplay." "Why," says Cousin Will, "unless every man can start something new we shall always remain in the same old wheel-track, and never get out, or do any good to ourselves or anybody else. I am much pleased with Jan Temby's remarks, and you may depend upon it that if he was not thoroughly acquainted with gossans he would not have got so many fine 'sturts' in his day, and such pleasant results are conclusive proofs that his judgment was never astray. Before we part I should like to say a few words, men, about a portion of the ground traversed by Uncle Henry. You all know the west end of Old Polgive, Chytodden, Laity, Stennack, Gernick, &c. With the exception of slight trials at Gernick, there is between it and the west end of Polgive inclusive, as fine a run of virgin mineral ground as can be found in Cornwall; in it you will find killas, elvans, and rough rubbly granite, with numerous lodes of copper and tin, cross-courses, &c. Jan Temby, I'll engage, will find good gossans. It is astonishing to me that this really valuable ground remains idle." "I'm come again, men," says Old Tom, "like the picter of poor speed, but I heerd a funny story when I was coming up from Billy Bright youth. He said Jemmy S—— was catched by old Passon H—— last Sunday stealing a faggot of furse. The Passon come upon un all of a sudden like, and Jemmy couldn't escape. So the Passon said—"I'm very sorry indeed, S——, to see this, and on the Sabbath day, and I thought too, S——, that you were a converted character.' 'Oh, no, Passon,' says Jemmy, 'I'm no more a converted character than you are.'"—*Cousin Jack's Unpublished MS.*

The firm of Messrs. B. S. Phillips and Co., discount brokers, Birchin Lane, will in future consist of Mr. Arthur B. Phillips and Mr. Walter Strickland.

THE "CHAMPION" ROCK BORERS AND AIR COMPRESSING MACHINERY AT THE CWMYSTWITH MINE.



THE "CHAMPION" ROCK BORERS AND AIR COMPRESSING MACHINERY AT THE CWMYSTWITH MINE.

There is little doubt that efficient rock borers are in every way calculated to aid the miner, and to assist in developing valuable mines in the quickest and cheapest manner possible, and while discussion and newspaper correspondence are taking place, and subscriptions are being solicited with reference to the introduction of rock borers in Cornwall, they are being gradually introduced in other parts of the country, where their utility is already appreciated. It will, doubtless, be interesting to our readers to have a brief description of the rock boring and air compressing machinery lately erected for Messrs. John Taylor and Sons, at the Cwmystwith Mine, by Messrs. Ullathorne and Co., of 63, Queen Victoria-street, London, the proprietors of the "Champion" rock borer.

The illustration represents two of their rock borers mounted on a very complete and adjustable carriage, specially designed and supplied by them for driving levels. It will be noticed that by means of the moveable arms on the carriage, and the universal clamps on the arms, the rock borers may be directed and fixed to bore at any point, and in any direction, to suit the wants of the miner, so that much time may be saved by boring a number of holes, without moving the carriage, after it is once secured in position. To the back of the carriage is fixed a convenient tool-box, and a pressure gauge is provided, so that the precise pressure of air driving the rock borers may always be known. A small jet of water at a high pressure is directed into the holes as they are being bored.

The rock borers possess the great advantage of being able to be worked with a very low pressure of air, and a pressure of only 35 lbs. to the square inch will enable them to bore a 1¼ inch hole with great rapidity. They weigh only 1¾ cwt. each, and are short and handy. Each rock borer is provided with a perfect self-acting feed (readily put in or out of gear), which causes it to be steadily wound forward in its jacket accurately in proportion as the steel drill penetrates the rock, without dependence on the skill of the attendant. By means of this automatic feed much greater speed is attained, and it allows the attendant to give a general supervision to the machines and carriage, and to see that everything is working properly, which he could not do satisfactorily if he had to be winding forward by hand. Anyone who has practically worked a rock borer with a perfect automatic feed will appreciate its great advantage. The rotation of the steel drill also is automatic, so that perfectly round holes are ensured, and there is no undue wear on the steel. Considering the completeness in all the details of the rock borers, they are wonderfully compact and simple, and being specially constructed with a view to durability, there is little danger of breakage or derangement, while the wear is reduced to a minimum.

The rock borers are driven by air conveyed into the workings in wrought-iron pipes. The air is compressed by means of two double acting air compressors, driven by a thoroughly simple and efficient water-pressure engine, all compactly arranged on one bed plate, occupying a space of only 9 ft. 6 in. by 6 ft., and erected near the mouth of the adit. This arrangement was suggested by Messrs. John Taylor and Sons, to take advantage of the water supply. The head of water driving the engine is about 250 ft.; the water is obtained from a small lake above the mine, and is conveyed down the side of the mountain in cast-iron pipes. The air compressors, of simple and durable construction, supply an ample quantity of air to drive four rock borers. The engine has been driven at 120 revolutions per minute, but this speed is unnecessary. All the machinery is working admirably; it has been inspected personally by Mr. Taylor, who is highly satisfied with it, and we are informed that Messrs. Ullathorne and Co. have since received an order for more rock borers to be used in the same mine.

DIRECT MANUFACTURE OF ZINC WHITE.

The many advantages possessed by zinc white as a pigment, as compared with white lead, have frequently been noticed in the *Mining Journal*, and a process is now being introduced which will, so far, cheapen the process of manufacture as to facilitate its more extensive adoption. The principle of the improved process invented by M. PIERRE THOMAS, of Madragne de Montredon, France, is the direct transformation of the zinc contained in the matters to be treated into oxide of pure zinc capable of being employed as zinc white. The improved process consists in dissolving the zinc of any zinc-producing matter, whatever ore, alloy, or other, in chlorhydric acid, in precipitating it in the state of hydrate by its equivalent of lime, and in calcinating at red heat the oxide obtained. With pure zinc, pure acid, and pure lime a white is thus obtained which admits of comparison in every respect with the zinc white of manufacturers.

According to the primary matters used there are certain precautions to be taken for obtaining the dissolution of chloride of zinc entirely free from foreign metals or hurtful substances. The first precaution, which concerns the chlorhydric acid, is only to use acid gathered in the eighth vessel, at least of the condensing batteries, to get acid free from sulphuric acid. It is impossible thus to choose the acid, it will be found necessary, in order to obtain a favourable result, to purify it with a little chloride of barytes. The sulphate of lime which forms during the operation is very difficult to remove by washing, and the quality of the white is rendered inferior. The object of the second precaution, which concerns the matters to be treated, is to eliminate from the solution all the foreign metals, the oxides of which would colour the product. It consists in leaving the solution while hot in contact for some time with metallic zinc, which precipitates all foreign metals, even iron, except manganese, the separation of which can only be effected by adding to the solution a certain quantity of an ammoniacal salt which retains it in dissolution.

The precipitation of the positive metals by zinc is well known, but the case is not the same with the precipitation of iron, at least this reaction is not mentioned by any of the best authors. Thus, by a sufficiently prolonged digestion at a temperature of from 80° to 100° (about 170° to 212° Fahrenheit) with zinc in plates or granulated, all the iron of one dissolution even were it at the minimum of oxidation is precipitated to the state of hydrate of sesqui-oxide. For the elimination of iron the reaction indicated in chemistry may be used—pass the iron at the maximum through chlorine and saturate the dissolution while hot with carbonate of lime, or carbonate or oxide of zinc. The third precaution, which is important for the beauty of the product and for the facility of the washings, consists in precipitating while hot, and in letting the precipitate of oxide of zinc boil for a few moments. The white thus obtained is much denser, is washed better, and the layer of the white of zinc when applied is more perfect.

When once the oxide of zinc has been precipitated and washed long enough for the water of the washing no longer sensibly to contain either lime or chloride of calcium, it is dried and calcined a cherry red colour; it can then be sent to market. When very impure primary matters have to be treated, if it is not desired to refine the white, grays more or less dark may be obtained, which are naturally of less value, although at the same time constituting commercial products corresponding to the whites No. 3, to the zinc grays and the stone grays of the manufacturers.

The principal applications of the process to which special claim is laid by the side of the general method are—1. The manufacture of the zinc white by means of metallic zinc, waste zinc, or alloys attackable by acids.—2. The direct treatment of the ores, calamines, or blendes, for making zinc white or gray. The roasted blendes easily yield all their zinc to diluted chlorhydric acid. This application especially allows of treating economically the blende lead ores by extracting all the zinc they contain, and leaving for residue the lead ore free from zinc and retaining all the precious metals. It is necessary for this last purpose to use acid very strong and suitable to operate the precipitation of the metals dissolved other than zinc, even in the operating vessel.—3. The economical treatment of the argentiferous masses resulting from the unsilvering of the lead by the zinc.

To succeed in completely attacking the argentiferous masses so as to separate the zinc from the lead and the silver, it is necessary previously to burn them, because the lead and zinc alloy, however fine a powder it may be when mixed, remains unattackable by chlorhydric acid, even concentrated. The burning of the argentiferous masses can be performed either in a cast-iron boiler or on a flat plate, and in order to have no loss of zinc ought to be done at a very moderate heat; dark red is quite sufficient. The masses once burnt present the appearance of an extremely fine grayish powder, from which the diluted chlorhydric acid separates absolutely all the zinc. A useful precaution to take, when the mass is once completely attacked, consists in over-saturating the liquor, as has been before stated, with metallic zinc even in presence of the deposit of lead. The chloride of zinc which may have formed in the deposit is thus reduced, and the little lead and silver which may have remained in dissolution is precipitated on the deposit itself by the help of the acid chloride of zinc. The deposit when washed can be treated directly by the refining furnace; it is, however, more suitable to re-melt it previously. A white, No. 1, without loss of zinc, is obtained from the solution thus over-saturated, cleared, and treated with lime.

MANUFACTURE OF STEEL.—The invention of Mr. WM. FIELDS, of Wilmington, U.S., consists in combinations of chemical compounds, one of which is first mixed with the iron in the boiling or puddling-furnace while in a thoroughly molten state, and thoroughly incorporated with it by the stirring for decarbonising, desulphurising, and dephosphorising the iron, after which the furnace is closed for a few moments to allow the escape of the disengaged sulphur, phosphorus, and carbon, when it is again opensed, and the second compound is put in and quickly stirred into the molten mass of cinder and iron, after which the damper is kept open a sufficient time to re-carbonise and alloy the iron, and thus form steel of any desired quality. To 950 lbs. of pig-iron made from charcoal or anthracite, and 50 lbs. of franklinite iron, he puts in for removing the sulphur, phosphorus, and other impurities, the iron being in a molten state in the boiling or puddling-furnace, ½ lb. of litharge, ½ lb. of sal soda, ½ lb. of sal ammoniac, ½ lb. of saltpetre, ½ gallon of fine charcoal, and stirs well for two or three minutes to work off the impurities. Then for the second compound he puts in 4 lbs. of chromate of iron, 1 lb. of black oxide of manganese, 1 lb. of antimony, 1 lb. of wolfram, 1 lb. of sal ammoniac, 1 lb. of litharge, and 2 lbs. of York ore, and stir well, hammer two or more balls together, then heat again, and roll into rails or other articles. He does not confine himself to the exact proportions of the several chemicals mentioned—for this reason, that it depends upon the quality of the iron used as to whether the proportions should be greater or smaller than above stated, or whether it is necessary to use all of them to obtain the result; this must depend upon the operator, who is supposed to know the quality of the iron he uses. For instance, when the iron is very poor and difficult to fuse, he would use the franklinite in greater proportion, also more of the sal ammoniac, and more of the chromate of iron, according to circumstances.

MANUFACTURE OF ARSENIC.

In the preparation of colouring materials by the action of arsenic acid on aniline or other similar substances, the by-product obtained consists of arsenious acid and lime, and it also contains carbonaceous matters derived from the analine or other similar substances, and Mr. E. A. PARNELL, of Swansea, has recently patented an improved method of extracting the arsenic. When the arsenical by-product is calcined at a moderate heat, a portion of its arsenic, amounting to about one-third of the total quantity present, is disengaged and volatalised as metallic arsenic. The remainder of the arsenic is contained in the residue in the state of arseniate of lime, from which heat alone is insufficient for the elimination of the arsenic. Under Mr. Parnell's invention the decomposition of the arsenical lime compound is effected by the addition of a siliceous material in conjunction with a carbonaceous or other deoxidising material. At a moderate red heat the lime then unites with silica, thereby producing silicate of lime, and the arsenic is disengaged in the metallic state, and capable of being condensed and collected in the usual way in a condenser or long flue. The presence of a deoxidising agent in conjunction with silica is essential to effect a rapid decomposition of the arsenical lime compound. The process may be conducted successfully in a variety of ways; for example, the arsenical by-product may be mixed in a direct manner without previous calcination with the silicious material, or it may be first calcined, and resulting arseniate of lime mixed with silica and a deoxidising substance. In the raw or uncalcined state the said by-product often contains sufficient carbonaceous matter to render the further addition of reducing material unnecessary. He does not confine himself to the use of carbonaceous material as a reducing agent, as arsenical pyrites or mundic may likewise be employed with good results. The arsenic contained therein, as well as that in the lime compound, is disengaged, and a mixture of silicate of lime and silicate of oxide of iron remains behind.

Of the materials mentioned the proportions which he prefers to employ vary under different circumstances. With siliceous sand and coal he proceeds thus. To a quantity of the uncalcined arsenical by-product containing four parts of lime (as found by previous analysis) he adds five parts of fine siliceous sand, mixes the same intimately, and afterwards adds two parts of small coal; or if the arsenical by-product has been previously calcined he mixes together about ten parts of the arseniate of lime, six parts of fine siliceous sand, and six parts of small coal. With arsenical pyrites mixed with quartz or sand he thus varies the process. As arsenical pyrites is always found in nature associated with more or less quartz, he selects such ore of inferior quality as contains about two-thirds of its weight of quartz, and one-third of mispickle, corresponding to about 15 per cent. of metallic arsenic. Such ore is crushed and reduced to a state of fine powder, and he mixes ten parts thereof with a quantity of the uncalcined arsenical by-product, which is found by analysis to contain three parts of lime; or he mixes ten parts of such ore with six parts of the calcined arseniate of lime. The heating of these several mixtures may be effected either in a close furnace or in an open reverberatory furnace. When the latter kind of furnace is employed it should be constructed with returning flues under the working bed, and openings should be made in the end of the furnace for the admission of air, so that the arsenic may become oxidised and pass into the condensing chamber as arsenious acid.

For the purpose of heating the mixture of the uncalcined arsenical by-product with sand Mr. Parnell prefers to employ a revolving cylinder similar to Oxland and Hocking's revolving calciner for ores and minerals, the same being slightly inclined with a fire-place at one end. The raw mixture is allowed to enter continuously in a dry state into the cylinder at the end farthest from the fire, and the silicate of lime to flow out in a pulverulent state from the end next the fire. If the raw materials have been well mixed it is not necessary that the heat be raised so high as to cause incipient fusion of the silicate of lime. The most convenient source of heat, whether the furnace be a reverberatory furnace or a revolving cylinder, is a gas producer similar to that employed in connection with the Siemens regenerative furnace. By means of the gas producer sufficient heat is obtained without exposing the mixture to excess of air. In order, to oxidise the volatilised metallic arsenic and obtain arsenious acid air is admitted through openings in the condensing chamber when it adjoins the revolving cylinder.

Another method which Mr. Parnell also employs for conducting his process is included in the patent. Having calcined the said arsenical by-product he mixes the resulting arseniate of lime with moist clay, sand, and small coal, and forms the mixture into balls or pellets, which when dry he calcines in an ordinary kiln heated by a subjacent reuning fire. For this mode of conducting the process he employs the following mixture:—Calcined arseniate of lime, four parts; dry sand, two parts; small coal, one part; and moist clay sufficient to contain, if dry, one part. When his object is to obtain metallic arsenic from either of the mixtures described, he carefully avoids the admission of an excess of air, not only in the furnace but also in the condensing chamber. When his object is to obtain arsenious acid he allows air for the combustion of the arsenic to be sucked in at the entrance into the condenser or under the bed of the reverberatory furnace. He does not confine or restrict himself to the precise methods and proportions mentioned, inasmuch as the same may in some instances be varied without departing from, or interfering with, the principles upon which the invention is based, but what he considers novel and original, and, therefore, claims as his invention, is the use conjointly of a siliceous material and a deoxidising agent, for the purpose of extracting arsenic and arsenious acid from the arsenical by-product, either with or without previous calcination of the latter.

VALUABLE COAL AND IRON MINES IN SPAIN.—From Spain we have a special account of important coal and iron mines. They are situated in a large coal basin, and have an extent of 606 appurtenances of 1000 square yards each, making a total extent of 6,060,000 square yards. The quality of the coal appears to be good, and, delivered at Madrid, would cost 84 reaux 20 centimes (17s. 6d. per ton). There is already a foundry in the locality, and it is proposed to form a railway from the mines to Madrid. The price of coal at this city is 30s. per ton, and therefore a good margin of profit might be secured. Our correspondent says that in the geological description published in Madrid, by M. Casiano de Prado, principal inspector of the engineers of mines in Spain, it is stated that "no coal mine company in Spain, not even that of Langreo, has such a large coal basin as these mines. The coal is of superior quality, and in the centre of the basin the beds are very hard; on the surface, and in the depth, the bed of coal is also of very superior quality. Their slope varies between 45° and a vertical line." Another report states that "iron cannot be obtained at so low a price in any country in the world as at these mines. Three of the coal beds can furnish coal to the foundries during three centuries, and one of the mines, of the extent of 50 square yards, can maintain the making of iron castings during ten centuries." The mines are situated about 200 miles from Madrid, and are in possession of a company which is working them. Two furnaces and the foundry are in good condition, and a large manufacture, similar to English foundries, is already established. The furnaces are 50 ft. to 60 ft. high, and take in air through engines of 60-horse to 90-horse power. The operations of the company are capable of great extension.—*British Mail.*

HOLLOWAY'S PILLS—LOOK TO YOUR HEALTH.—Any abrupt change in the weather always causes disordered action in the human body. It is a matter of primary importance to rectify every irregularity without delay, which it is in the power of everyone to do by taking Holloway's Pills. These pills are the best preventives of indigestion, and the mildest aperients ever prescribed. They purify and cool the blood, and equalise the circulation through the system, even to the minutest vessel of the skin. They act admirably on the liver and kidneys. By these salutary effects many ailments are averted, and more serious illness prevented. Persons subject to bilious attacks, flatulence, gout, rheumatism, and rheumatic gout will be benefited by this treatment.

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LECTURES ON MINERALS AND ROCKS.—PROF. TENNANT, F.G.S., will give TWO COURSES of LECTURES on GEOLOGICAL MINERALOGY at King's College, London. One Course on Wednesday and Friday mornings, from Nine to Ten o'clock; the other Course on Thursday evenings from Eight to Nine. The Lectures commence Wednesday, October 11th, and will be illustrated by a very extensive collection of specimens, chiefly from his private cabinets. Persons unable to attend Public Lectures can have Private Instruction in MINERALOGY and GEOLOGY of Professor TENNANT, at his residence, 149, Strand, W.C.

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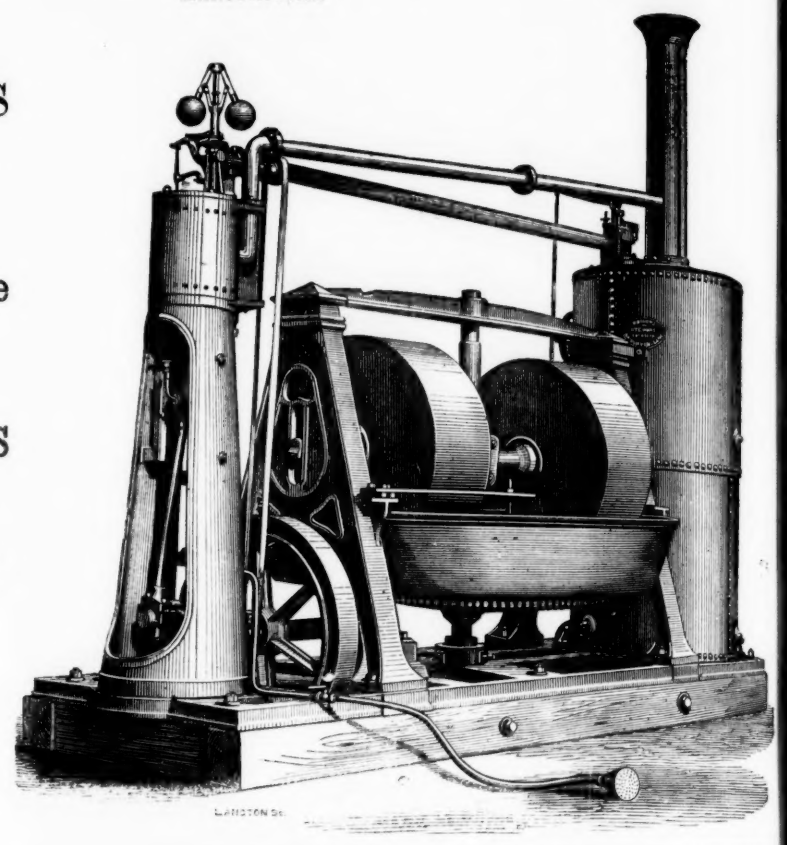

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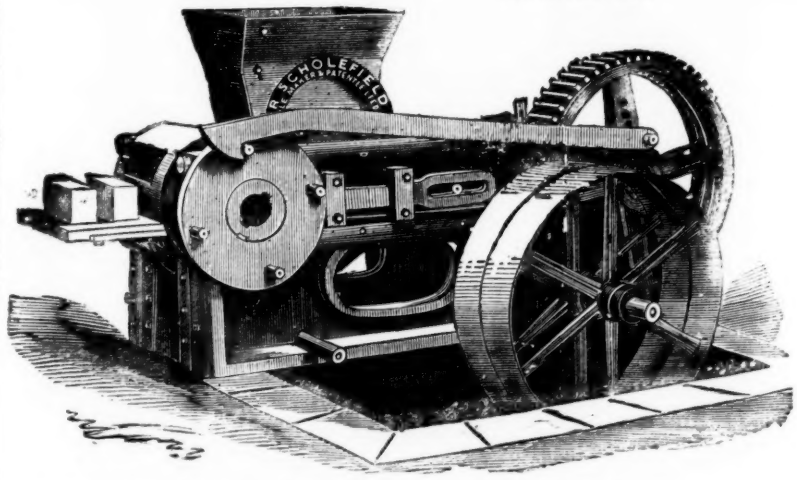

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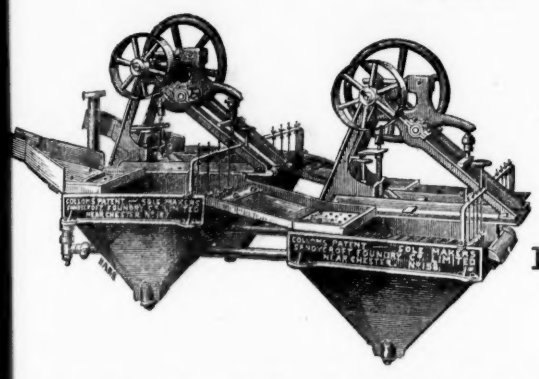

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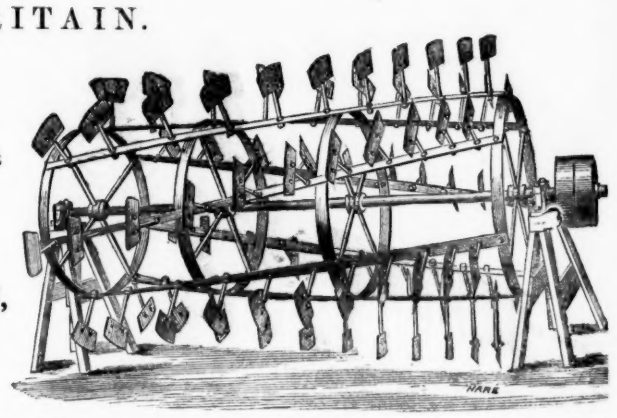

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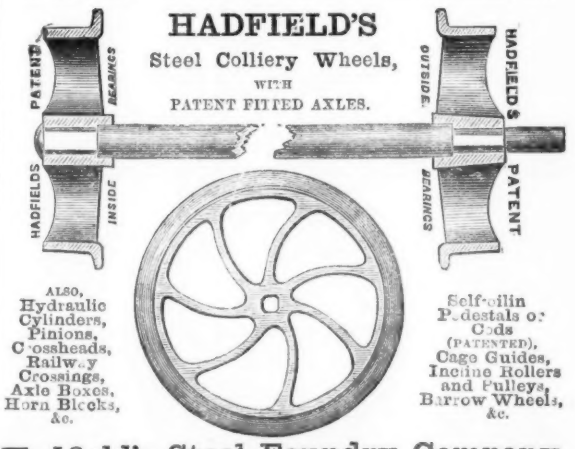

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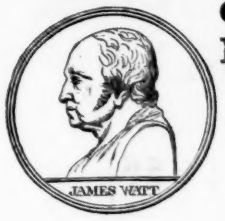

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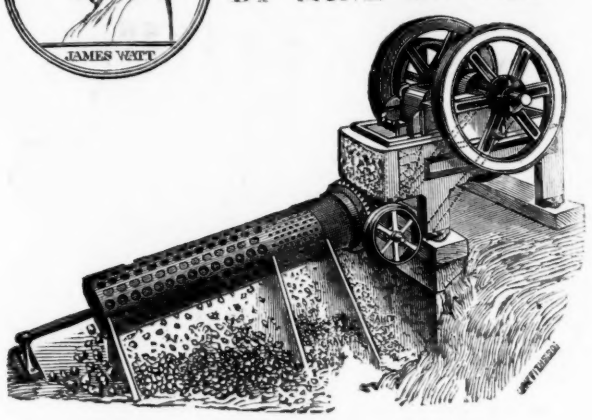

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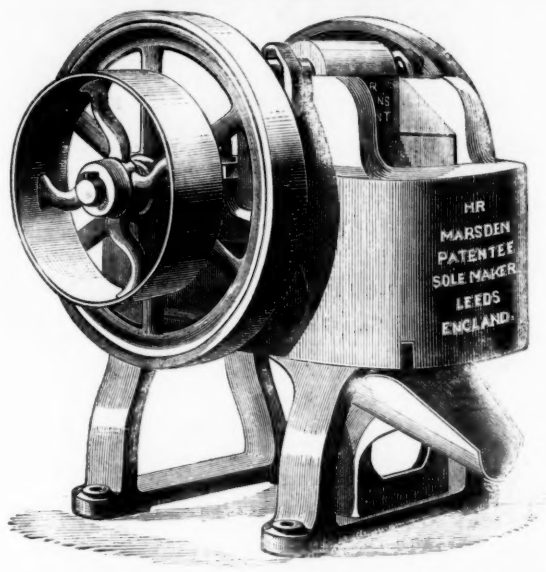

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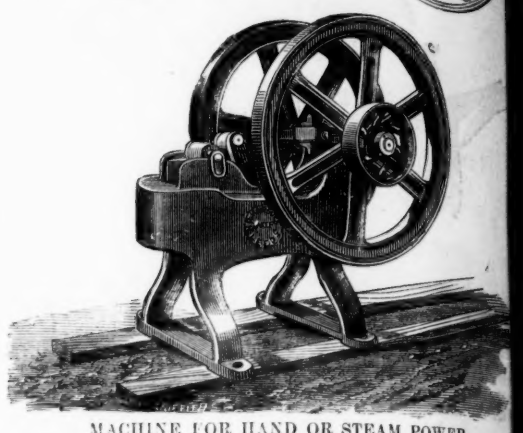

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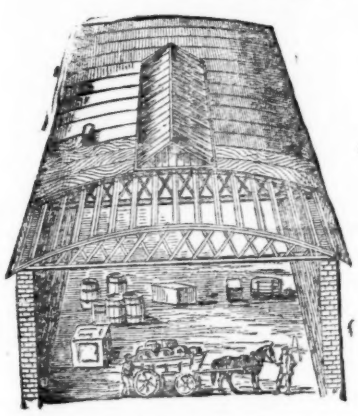

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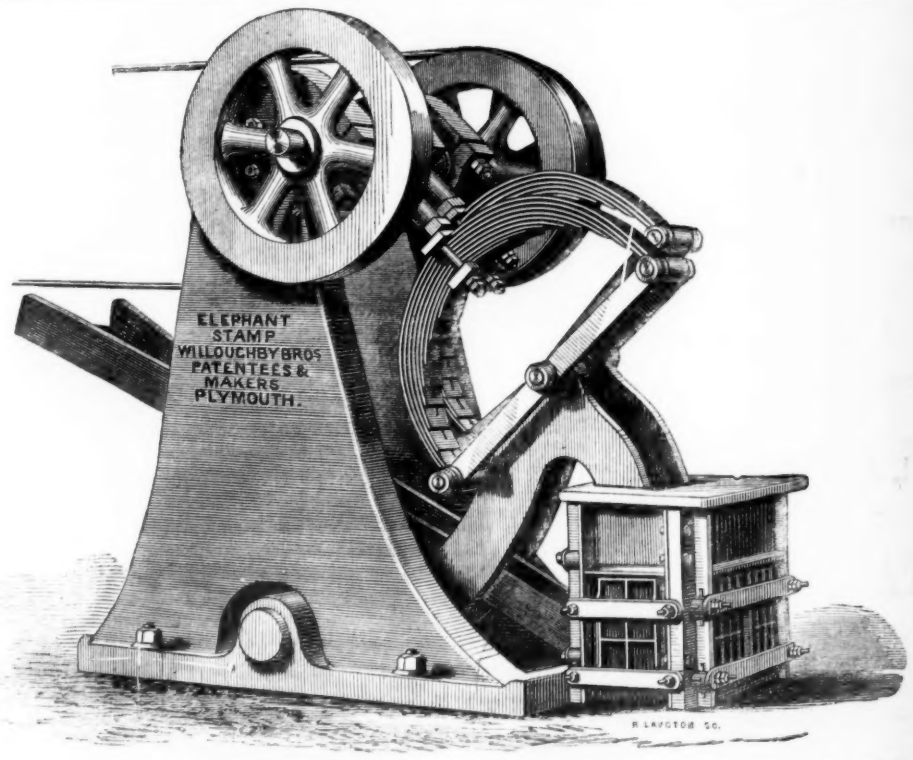

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